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No. OFFICE OF THE CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM, 1995

RODIME PLC,

Petitioner,

v.

QUANTUM CORPORATION,

Respondent.

On Petition for Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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PETITION FOR WRIT OF CERTIORARI

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February 26, 1996

Questions Presented

1. Whether the reversal by this Court of the holding in *Markman* v. *Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir.) (in banc), *cert. granted*, 116 S. Ct. 40 (U.S. Sept. 27, 1995) (No. 95-26), that claim interpretation is purely a question of law for the courts, also requires reversal of the lower courts' grant of summary judgment in this case, where that judgment resulted from a claim interpretation contrary to the interpretation that a reasonable jury could have reached based upon uncontradicted factual evidence in the record as to how persons of skill in the art would understand the claims in issue.

2. Whether a court has power to invalidate a patent claim it determines to have been broadened during reexamination where Congress, in amending the Patent Act to provide the entirely new procedure of reexamination set out in 35 U.S.C. § 305 conditions for the "Conduct of Reexamination Proceedings" that included a direction that no amendment "enlarging the scope of a claim of the patent will be permitted in a reexamination proceeding," but did not provide any judicial remedy for noncompliance with this direction, and where neither 35 U.S.C. § 282, which specifically sets forth defenses of invalidity of a patent that "shall be" permitted, nor any other section of the Patent Act includes the broadening of a claim in reexamination as a basis for invalidating a patent claim. Because nothing in the Federal Circuit's decision limits its sweeping assumption of power, this decision has ramifications beyond the Patent Act.

List of Parties and Rule 29.1 Statement

The parties to the proceedings in the United States Court of Appeals for the Federal Circuit were petitioner Rodime PLC and respondent Quantum Corporation. Rodime PLC has no parent companies or subsidiaries.

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PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Petitioner Rodime PLC respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit entered in this case on September 22, 1995, on which rehearing was denied on November 27, 1995.

Review is warranted because this case raises the same question on which this Court granted certiorari in *Markman* v. *Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir.) (in banc), *cert. granted*, 116 S. Ct. 40 (U.S. Sept. 27, 1995) (No. 95-26), and, therefore, if this Court reverses the Federal Circuit in *Markman*, reversal in this case is mandated. Independent of *Markman*, this case involves an important question of federal law regarding the remedy for non-compliance with a procedural section of a statute, where the statute itself provides no remedy for such non-

compliance, but does specifically provide a remedy for non-compliance with other, enumerated sections of the statute.

Petitioner respectfully submits that consideration of this Petition should be deferred until an opinion is issued in *Markman*. *See, e.g.*, *Keney* v. *New York*, 388 U.S. 440 (1967).

Opinion and Order Below

The opinion of the United States Court of Appeals for the Federal Circuit is reported at 65 F.3d 1577 and is reprinted in the appendix hereto at pages 1a through 18a.

The Order of the United States District Court for the District of Minnesota is reported at 851 F. Supp. 1382 and is reprinted in the appendix hereto at pages 19a through 36a. That Order was incorporated in a final judgment entered by the District Court on April 26, 1994, which is reprinted in the appendix hereto at page 37a.

Jurisdiction

The United States Court of Appeals for the Federal Circuit entered its judgment on September 22, 1995. A timely petition for rehearing by Petitioner was denied on November 27, 1995, which is reprinted in the appendix hereto at pages 38a-39a. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

Statutes and Regulations Involved

The case involves 35 U.S.C. § 305, Conduct of Reexamination Proceedings, 35 U.S.C. § 282, paragraph two, Presumption of Validity; Defenses, and 35 U.S.C. § 251,

paragraphs three and four, Reissue of Defective Patents. The relevant text of these sections is reproduced at 40a-41a.

Statement of the Case

A. This Action

Quantum Corporation ("Quantum") sought a declaration from the United States District Court for the District of Minnesota that Rodime PLC's reexamined U.S. Letters Patent No. B1 4,638,383 (the "'383 patent") was invalid, unenforceable, and/or not infringed by any of Quantum's products. Quantum alleged that the District Court had subject-matter jurisdiction over this action pursuant to 28 U.S.C. § 1338(a). Rodime answered, counterclaimed for infringement and demanded a jury trial. (Appendix ("App.") at 21a.)

Quantum then sought summary judgment, arguing that during reexamination in the Patent and Trademark Office ("PTO") certain claims of the '383 patent (the "challenged claims") had been "broadened" to cover subject matter they did not cover before reexamination, allegedly in violation of 35 U.S.C. § 305. (App. at 21a.) The District Court granted the motion and declared the challenged claims invalid. (App. at 35a-36a.)

Rodime appealed on several grounds, including that the District Court committed reversible error by resolving against Rodime, the non-moving party, facts material to the interpretation of the claims, in particular testimony that persons of ordinary skill in the art would not understand the claims to be broader after reexamination than before. During the pendency of the appeal, the Federal Circuit decided *Markman*, 52 F.3d 967. In holding that claim inter-

pretation was solely a question of law, the Federal Circuit held that the judge determining the meaning of a claim could consider extrinsic testimony, such as evidence from those "skilled in the art to whom the patent is addressed," for information "about the language in which the patent is written" *id.* at 986; the Court nevertheless declared that judges evaluating such evidence do not resolve disputes of fact, even when they reject some evidence and accept other evidence. *Id.* Given *Markman*, the Federal Circuit in this case was free to draw factual inferences against Rodime and to fail to credit Rodime's substantial evidence -- which a reasonable juror could have found to demonstrate that the challenged claims were not broadened on reexamination -- in interpreting those claims as a matter of law.

B. The '383 Patent

The '383 patent relates to a computer memory storage device known as a hard-disk drive. A hard-disk drive contains one or more disks of metal or some other hard material on which data, in the form of electro-magnetic information, is stored on concentric "tracks." While the disk spins at high speed, the electro-magnetic "read/write" heads move over the disk, recording and retrieving ("writing" and "reading") data. (App. at 44a.)

The '383 patent issued on January 20, 1987. (App. at 47a.) Less than a year later, on September 28, 1987, Rodime requested reexamination of the '383 patent. (App. at 85a.) The request was granted, and, on November 29, 1988, the PTO duly issued Reexamination Certificate B1 4,638,383, containing new and amended claims. (App. at 57a.)

C. Rodime's Amendment During Reexamination of the Track Density Limitation Found in Claims 4, 6, 7, 9, 14 and 19-27

The claim language in issue -- "at least approximately 600 concentric tracks per inch" -- relates to the density at which data is stored on the disk. In the disk drive industry, track density is typically expressed in terms of the number of "concentric tracks" of data stored within an inch measured along the radius of the disk -- "tracks per inch" ("tpi"). (App. at 44a-45a.) Tpi is typically stated as a single numerical value. (App. at 45a.) However, as the evidence before the lower courts showed, it is well known to those skilled in the art that the track density stated for a disk drive is not, and cannot be, an exact value. (App. at 45a, 50a-51a, 56a, 88a.) Thus, as the evidence also showed, when those skilled in the art see track density stated as a single number, they understand that the number is an approximation or nominal value. (App. at 46a, 54a.) Consistent with the understanding of those skilled in the art, the specification of the '383 patent treats "tpi" as a nominal value, for example, by using "600 tracks per inch" interchangeably with "approximately 600 tracks per inch." (App. at 47a-49a.)

Following the first office action in the reexamination of the '383 patent, Rodime filed amendments canceling certain claims, adding new claims, and amending other claims. (App. at 58a-67a, 68a-84a.) Although most of these amendments were made in response to the Examiner's rejections, Rodime also amended the challenged claims by adding the word "approximately" to the limitation that was originally issued as "at least 600 concentric tracks per inch," so that

the amended claim term read "at least approximately 600 concentric tracks per inch." This particular amendment was not necessary to overcome any rejection, nor did it form the basis of allowance of any claim; it was, rather, a clarification of the original language. (App. at 58a-67a.) The addition of the word "approximately" to the challenged claims was underlined in order to highlight to the Examiner that the amendment was being made (App. at 71a-77a, 79a-81a), in conformity with the rules governing amendments during reexamination. *See* 37 C.F.R. § 1.121(f). The PTO allowed the amendments.

D. The Proceedings Below

1. The District Court's Ruling

Although the District Court made numerous errors of law in holding the challenged claims improperly broadened, for purposes of this Petition the significant error was resolving against Rodime a disputed issue of material fact as to the meaning of the challenged claims. Thus, rather than accepting Rodime's evidence and drawing all reasonable inferences from the evidence in Rodime's favor, thereby reserving to the jury the right to weigh the evidence as Fed. R. Civ. P. 56 and the pre-*Markman* substantive law required, the Court simply rejected Rodime's substantial -- and uncontradicted -- evidence. (App. at 19a-36a.)

2. The Federal Circuit's Decision

Having decided in *Markman* that no factual issues arise or are resolved by judges who interpret patent claims even where extrinsic evidence is indispensable to the interpretation, the Federal Circuit in this case did not reach the issue whether the District Court's disregard of Rodime's evidence

improperly invaded the province of the jury. Instead, the Federal Circuit interpreted the challenged claims of the '383 patent as a matter of law. In doing so, it was able to state that "Rodime offered no evidence to show that one skilled in the art understood 'at least 600 tpi' to be the same as 'at least approximately 600 tpi,'" (App. at 9a), *only* because *Markman* permitted the Court to do what would otherwise be forbidden: refuse to draw inferences in Rodime's favor from the factual record, or otherwise to credit Rodime's substantial evidence demonstrating that the addition of the word "approximately" did not broaden the claims.

This evidence showed that the addition of "approximately" to the challenged claims merely made explicit what those skilled in the art understood the original claim language to mean, so that the claims had the same meaning (and therefore scope) both before and after reexamination, and were not broadened. (App. at 42a-56a, 88a.) The uncontroverted evidence showed that "600 tpi" does not denote an absolute value, but itself means the same thing as "approximately 600 tpi." Given this fact, a reasonable juror could conclude that the original claim language, which referred to storing data at "at least 600 tpi," means the same thing as the amended claims' reference to storing data at "at least approximately 600 tpi."

The Federal Circuit ignored this -- and other -- reasonable inferences which would mean that the claims were not broadened and instead chose to draw inferences that rendered Rodime's proof "irrelevant" and the claims broadened. (App. at 9a.) Before *Markman*, this would have been plain error under Rule 56, which requires all reasonable inferences to be drawn in favor of the non-movant and the Seventh

Amendment, which requires disputes of fact to be resolved by the jury in a jury case.

Next, the Federal Circuit turned to the consequences of the broadening of the claims. (App. at 13a.) It acknowledged that this issue had not previously been determined by the Court, that "the Patent Act is silent regarding the proper remedy" and that "[n]either the express words in section 305 nor its legislative history provide any guidance in this situation; they merely recite the prohibition against broadening during reexamination." (App. at 13a-14a.) The Court also recognized that "despite the fact that the prohibition in section 251 against enlarging the scope of claims in *reissue* applications is analogous to the prohibition in section 305 regarding broadening during reexamination," Section 282[1/] expressly provides that claims broadened in reissue are invalid (if the broadening takes place more than two years after the grant of the original patent); however, Section 282 does *not* provide for invalidation of claims broadened during reexamination. (App. at 15a (emphasis added)); *see also* 35 U.S.C. § 282, ¶ 4.

Nonetheless, the Federal Circuit announced that "as a matter of law, the District Court arrived at the correct result" (App. at 16a), without bothering to cite any authority. The Court tried to bolster its holding by referring to the broad "purpose of the reexamination process," as "a mechanism for reaffirming or correcting the PTO's action in issuing a patent" (App. at 16a), but it neither cited the legislative history -- what *Congress* as opposed to the Court

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[1/] Unless otherwise specified, "section" references are to title 35 of the United States Code.

had to say about the statute's purposes -- nor identified anything in the statute or its purported "purpose" that permitted, let alone compelled, a court to take away the patentee's property right by invalidating any claim later deemed to be broadened. As for the fact that Section 282's enumeration of the grounds for invalidity did not include noncompliance with Section 305, the Court pronounced the statute's list of invalidity defenses to be non-exclusive, so that other invalidity defenses, like the one fashioned by the Court in this case, could exist. (App. at 18a.) The Court, however, cited no *other* grounds for invalidity not listed in Section 282, nor did it cite any authority empowering it to declare the claims invalid in the absence of congressional authorization.

Opining that some remedy was necessary, the Court chose to invalidate the claims -- for which there was admittedly no precedent -- and rejected Rodime's suggestion that powers the courts *do* have, their equitable ones, could in suitable cases furnish a remedy, such as applying the doctrine of unclean hands or judicial blue-penciling to restrict the claims to their original scope. (App. at 16a-18a.)

Reasons for Granting the Writ

I.
The Reversal of *Markman* Mandates Reversal In This Case

This Court has already determined that the issues raised in *Markman* are of sufficient import to be reviewed by this Court. If this Court concludes in *Markman* that claim construction is not a pure question of law in all cases, but that it may permit factual questions or a mixed question of

fact and law to be resolved in the normal fashion at trial (by a jury in cases where trial by jury has been demanded), the premise of the Federal Circuit's decision below (the "Decision") will no longer be valid, for the lower courts will be required to give weight to Rodime's evidence as to the proper construction of the challenged claims and to draw from that evidence all reasonable inferences favoring Rodime's position. Under these circumstances, the Court should grant this Petition and summarily reverse the Decision, pursuant to Supreme Court Rule 16.1 (thereby reversing the grant of summary judgment by the District Court), or, at a minimum, grant the Petition, vacate the Decision, and remand to the Federal Circuit for reconsideration in light of this Court's (now anticipated) decision in *Markman*.

Because this Court's decision in *Markman* controls the disposition of this Petition, Rodime respectfully suggests that action on the Petition be deferred until this Court decides *Markman*. *See, e.g.*, *Keney*, 388 U.S. 440; R. Stern, E. Grossman & S. Shapiro, *Supreme Court Practice*, 274 (6th ed. 1986).

A. Under the Pre-*Markman* Rule and Under the Anticipated Ruling of This Court that the Resolution of Genuine Disputes of Facts Material to Claim Construction are for the Jury, the District Court Would Have Been Required to Find in Rodime's Favor

Had *Markman* not controlled the Federal Circuit's decision, a different result would have been compelled below. All of the evidence submitted by Rodime would have been accepted (since it was uncontradicted and not found to

be incredible), and all reasonable inferences from that evidence would have been drawn in favor of Rodime and against Quantum, as required by this Court's cases applying Fed. R. Civ. P. 56. *See, e.g., Anderson* v. *Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986); *United States* v. *Diehold, Inc.*, 369 U.S. 654, 655 (1962); *see also KeyStone Retaining Wall Sys., Inc.* v. *Westrock, Inc.*, 997 F.2d 1444, 1449-50 (Fed. Cir. 1993); *Laitram Corp.* v. *NEC Corp.*, 952 F.2d 1357, 1363 (Fed. Cir. 1991); *Baker Oil Tools, Inc.* v. *Geo Vann, Inc.*, 828 F.2d 1558, 1566 (Fed. Cir. 1987). Since the District Court's grant of summary judgment could be sustained only if no rational person could conclude that the claims had *not* been broadened during reexamination, *see Anderson*, 477 U.S. at 248; *Fitzpatrick* v. *City of Atlanta*, 2 F.3d 1112, 1116 (11th Cir. 1993), summary disposition would have been inappropriate in this case, where Rodime raised sufficient evidence to permit a jury to find in its favor regarding whether the challenged claims were broadened during reexamination. *See, e.g. KeyStone Retaining Wall Sys.*, 997 F.2d at 1449; *Vas-Cath Inc.* v. *Mahurkar*, 935 F.2d 1555, 1560 (Fed. Cir. 1991).

Rodime's evidence[2/] directly contradicts the Federal

[2/] Specifically, the evidence in the record includes the following:

- A declaration from Anthony LaPine, whose expertise in the art was not questioned, stating that to one skilled in the art the term "approximately" was inherent in the original claim language "at least 600" tpi. (App. at 46a.) As a basis for his opinion that one skilled in the art would understand the scope of the amended claims to be substantively the same as the original claims, Mr. LaPine explained the variation in track density that exists in rotary actuator disk drives, the difficulties of measuring track density, and track density variations attributable to manufacturing tolerances, which

(continued...)

Circuit's resolution of what, prior to *Markman*, would have been an issue of fact for the jury; only by resolving factual inferences against Rodime could the Federal Circuit declare that Rodime's evidence failed to show that one skilled in the art understood "at least 600 tpi" to be the same as "at least approximately 600 tpi." (App. at 9a.)

The effect of *Markman* on the outcome of this case is illustrated by the manner in which the Court dealt with the

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[2/](...continued)

create track density variations even among disk drives of the same model. Mr. LaPine further stated that, despite all of these facts, which are known in the art, it is common practice in the disk drive industry to express track density as a single value, which those skilled in the art understand to be necessarily approximate. (App. at 44a-46a.)

- Statements in the specification of the '383 patent that variously describe the track density at which the invention being claimed stored data as: "a density of *approximately* 600 tracks per inch." (App. at 47a (emphasis added)); "tracks per inch: 600" (App. at 49a); "*approximately* 600 concentric tracks per inch" (App. at 48a); and "developed to incorporate the 600 tracks per inch open loop positioning capability." (App. at 47a.)
- Deposition testimony from a non-party disk drive engineer who testified that disk drive makers state tpi as a "nominal" value, and that the precise track density of specific drives stated to possess a specific tpi "would be a function of the radial position of the actuator and manufacturing tolerances." (App. at 51a.)
- Deposition testimony from Norman White, Rodime's former Technical Director, and Roderick Urquhart, one of the two inventors of the '383 patent, explaining that "600 tpi" is an approximate and not an exact number, and that, to a man of ordinary skill in the art at the time the invention was made, referring to the tpi for a rotary actuator drive as "600 tpi" was equivalent to referring to a tpi of "approximately 600 tpi." (App. at 54a-56a.)

uncontradicted declaration of Mr. LaPine that "[i]n my opinion, the term 'approximately' . . . *was inherent in those claims as originally issued.*" (App. at 46a (emphasis added).) At the very least, a reasonable interpretation of this evidence is that the challenged claims were no broader after reexamination than they were before reexamination. A reasonable juror could conclude that because the term "approximately" was "inherent in those claims," its addition to the claim language did not alter the scope of the claims, but merely made explicit what was previously inherent. Particularly given Quantum's argument that the use of "at least" as part of the phrase "at least approximately" in the *amended* claim language did not place an absolute lower limit on the range of actual tpi covered by the nominal term "600 tpi," a reasonable juror could also conclude that one of skill in the art would have understood the phrase "at least," when it was used in conjunction with the inherently approximate term "600 tpi" as part of the language of the *original* claims, as not placing an absolute lower limit on the range of that *original* claim, either.

The Federal Circuit, however, refused to reach this reasonable conclusion as a matter of law, finding instead that the language "at least 600 tpi" in the original claims sets "forth an absolute lower limit of a range, i.e., 600 on up." (App. at 10a.) While it is perhaps one reasonable inference from the evidence, this conclusion would have been impermissible before *Markman*, because at that time the Court could not have resolved genuine issues of fact against Rodime, but would have had to leave the issue to the jury at trial. *See Anderson*, 477 U.S. at 255; *Laitram*, 952 F. 2d at 1364. *Markman*, however, allowed the Federal Circuit to reject a perfectly reasonable reading of the evidence and to

accept or reject whatever evidence it fancied. *Markman*, 52 F.3d at 981.

B. The Federal Circuit Decision Deprives Rodime of its Seventh Amendment Right to a Jury Trial

It is undisputed that the Seventh Amendment right to a jury trial applies to patent cases, *see, e.g., Markman*, 52 F.3d at 984, and that, prior to *Markman*, issues of fact arising in claim construction raised questions for the jury in a jury case. *See, e.g., Palumbo* v. *Don-Joy Co.*, 762 F.2d 969, 974 (Fed. Cir. 1985) ("[W]hen the meaning of a term in the claim is disputed and extrinsic evidence is necessary to explain that term, then an underlying factual questions [sic] arises, and construction of the claim should be left to the trier or jury under appropriate instruction.")

As explained cogently in the briefs submitted on behalf of Petitioners Herbert Markman and Positek, Inc. in *Markman*, when extrinsic evidence is weighed and a genuine issue of material fact exists as to the interpretation of a claim, that weighing and credibility assessment is for the jury. Rodime will be denied its Seventh Amendment rights if the Decision is allowed to stand.

II.

The Federal Circuit's Decision Involves an Important Question of Federal Law Respecting Statutory Interpretation

Despite its acknowledgement that neither "the express words in section 305 nor its legislative history provide any guidance" as to "the proper remedy" in a patent infringement suit when claims were "broadened during reexamination," the Decision declared that the proper remedy was

invalidation of the claims. (App. at 16a, 18a.) This invalidation was not only unauthorized by Section 305, it conflicts with Section 282's specific itemization of the bases for invalidating claims, in violation of the canons of statutory construction.

A. The Decision's Impact on Construction of Other Federal Statutes

Such an unprecedented and punitive result would be compelling grounds for granting certiorari even aside from the Decision's ramifications outside the area of patent law, for it purports to permit the Federal Circuit, and other courts, to devise remedies based on their own notions of "policy" without regard to either statutory language or congressional intent. The wide-ranging implications of this error require correction by this Court. As this Court has often stated, especially where, as here, a comprehensive statutory scheme is in place, "[t]he ultimate question is one of congressional intent, not one of whether this Court thinks that it can improve upon the statutory scheme that Congress enacted into law." *Touche Ross & Co.* v. *Redington*, 442 U.S. 560, 578 (1979). Although a statute may be liberally construed to achieve its purposes in cases of ambiguity, no such ambiguity exists here; furthermore, even in cases involving ambiguity a court "does not add features that will," in the court's view, "achieve the statutory 'purposes' more effectively." *Director, Office of Workers' Compensation Programs, Dep't of Labor* v. *Newport News Shipbuilding & Dry Dock Co.*, 115 S. Ct. 1278, 1288 (1995); *MCI Telecommunications Corp.* v. *American Tel. & Tel. Co.*, 114 S. Ct. 2223, 2232 n.4 (1994) (holding that court is bound "not only by the ultimate purposes Congress has selected,

but by the means it has deemed appropriate, and prescribed, for the pursuit of those purposes"). If permitted to stand by this Court, the Decision's error is likely to infect the interpretation of other statutes, particularly given the Federal Circuit's central role in enforcing so many federal statutory programs.

B. Congress Did Not Grant the Court Authority to Invalidate Claims That are Broadened During Reexamination

The plain language of Sections 305 and 282 provide no authority for a federal court to invalidate a patent claim because of broadening during reexamination, and the Decision cites none. Congress set forth in Section 282 the specific grounds upon which a court may invalidate patent claims. *See* 35 U.S C. § 282; *Tillotson, Ltd.* v. *Walbro Corp.*, 831 F.2d 1033 (Fed. Cir. 1987). As the Decision acknowledged, noncompliance with Section 305 is not among these. (App. at 15a.)

Where, as here, Congress has specifically articulated an affirmative list of the things that "shall be" permitted, it is presumed that that list is exclusive. *See, e.g.*, *Tennessee Valley Auth.* v. *Hill*, 437 U.S. 153, 188 (1978) (holding that where Congress included a specific list of hardship exemptions in the Endangered Species Act, the Court "must presume that these were the only 'hardship cases' Congress intended to exempt"); *Leatherman* v. *Turrant County Narcotics Intelligence & Coordination Unit*, 113 S. Ct. 1160, 1163 (1993) (holding that list of actions in Fed. R. Civ. P. 9(b) requiring pleading with particularity preclude reading in other kinds of actions into the Rule); *see also McNary* v. *Haitian Refugee Ctr., Inc.*, 498 U.S. 479, 496

(1991) (presumed that "Congress legislates with knowledge of our basic rules of statutory construction"). The Decision thus rejects the maxim *expressio unius est exclusio alterius* in concluding that Section 282 is not exclusive -- a conclusion for which it cites no authority.

Furthermore, a reading of Sections 305 and 282 together indicates that this omission was advertent. Not only does Section 251 permit claims to be broadened within two years of issuance of the original patent, this *limited* prohibition against broadening in reissue, which the Federal Court found to be analogous to Section 305, is listed as a ground of invalidity in Section 282, but Section 305 is not.[3/] *See id.* § 282(3). *See, e.g.*, *Russello* v. *United States*, 464 U.S. 16, 23 (1983) ("'[W]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.'") (citation omitted).

In these circumstances this Court's cases recognizing that, where Congress intended "to authorize" a remedy, it clearly "knew how to do so" are peculiarly apt. *Custis* v. *United States*, 114 S. Ct. 1732, 1736 (1994); *see also Blue Chip Stamps* v. *Manor Drug Stores*, 421 U.S. 723, 734 (1975) ("When Congress wished to provide a remedy to those who

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[3/] If this Court were to allow the Federal Circuit to read Section 305 into the defenses listed in Section 282 because it contained a broadening prohibition similar to Section 251, then the Court should read in *all* the conditions of invalidation found in Section 251 as well, which includes a two-year grace period. *See* 35 U.S.C.§ 251. If that congressionally-mandated, two-year grace period had been applied here, Rodime would not have breached Section 305 and the challenged claims would not have been invalidated.

neither purchase nor sell securities, it had little trouble in doing so expressly."); *Central Bank* v. *First Interstate Bank*, 114 S. Ct. 1439, 1448 (1994) ("Congress knew how to impose aiding and abetting liability when it chose to do so."). This Court has applied this doctrine in a host of situations to refuse to imply words and remedies that are not written into a statute. *See, e.g., Omni Capital Int'l, Ltd.* v. *Rudolf Wolff & Co.*, 484 U.S. 97, 106 (1987) ("It would appear that Congress knows how to authorize nationwide service of process when it wants to provide for it. That Congress failed to do so here argues forcefully that such authorization was not its intention."); *Brown* v. *Gardner*, 115 S. Ct. 552, 556 (1994); *Keene Corp.* v. *United States*, 113 S. Ct. 2035, 2040 (1993); *General Motors Corp.* v. *United States*, 496 U.S. 530, 538 (1990); *cf., e.g., Middlesex County Sewerage Auth.* v. *National Sea Clammers Ass'n*, 453 U.S. 1, 14-15 (1981) ("'[I]t is an elemental canon of statutory construction that where a statute expressly provides a particular remedy or remedies, a court must be chary of reading others into it.'") (quoting *Transamerica Mortgage Advisors, Inc.*, v. *Lewis*, 444 U.S. 11, 19 (1979)).

Finally, the legislative history, as well as the structure of the statute, belies any congressional intent that broadened claims be invalidated. The reexamination provision was added to the patent statutes to invite patentees back to the PTO to "remedy any defects in the examination which that agency had initially conducted and which led to the grant of the patent." *Patlex Corp.* v, *Mossinghoff*, 758 F.2d 594, 601 (Fed. Cir. 1985); *see also id.* at 602; *In re Etter*, 756 F.2d 852, 857-58 (Fed. Cir.), *cert. denied*, 474 U.S. 828 (1985). In fact, given Congress' design to supplant "expensive and lengthy infringement litigation" with the

inexpensive and "efficient" reexamination procedure, it would be surprising if Congress intended for that reexamination procedure to provide the basis for yet more litigation. H.R. Rep. 96-1307(I) at 3-4, 1980 U.S.C.C.A.N. at 6462-63; *see also Patlex*, 758 F.2d at 602. The legislative history also specifically notes that "Subsection 307(b) provides intervening rights similar to those . . . [of] Section 252 with respect to reissued patents." H.R. Rep. No. 1307(I), 96th Cong., 2d Sess. at 8 (1980), *reprinted in* 1980 U.S.C.C.A.N. at 6460, 6467. Congress's contemporaneous awareness of reissue makes it most unlikely that Congress's failure to amend Section 282 by adding Section 305 as an additional ground for invalidity was an oversight; Section 282's provisions relating to reissue were undoubtedly known to Congress and it could easily have been amended, but it was not. *See, e.g., Goodyear Atomic Corp.* v. *Miller*, 486 U.S. 174, 184-85 (1988). Thus the legislative history contradicts the Decision.

Furthermore, Congress, like the Federal Circuit in this case, was presumably aware that courts had not held claims invalid on grounds not set out in Section 282. *See, e.g., Bush* v. *Lucas*, 462 U.S. 367, 379 n.15 (1983). Surely Congress did not draft a new, inexpensive procedure for testing the validity of a patent, *see Patlex*, 758 F.2d at 602, only to subject patentees to the draconian "death penalty" of invalidity if they, however inadvertently, were later found by a court to have been granted a broadened claim. At the very least, the purpose and language of the statute do not overcome the presumption of *expressio unius est exclusio alterius* in this case.

Accordingly, as the Decision implicitly acknowledges, the Federal Circuit had no statutory authority to invalidate the challenged claims. Without Congressional authority, courts have no power to declare patent claims invalid.[4/]

Conclusion

If this Court holds in *Markman* that claim interpretation is a question of fact or a mixed question of law and fact for the jury, the Decision should either be summarily reversed or vacated and this case remanded for reconsideration in light of the Court's decision in *Markman*. Even if this Court does not so hold in *Markman*, this Petition should still be granted to consider the important question of federal law raised by

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[4/] Although courts' inherent equitable powers permit them to fashion certain remedies where equity requires, declaring a patent claim to be invalid is not one of these. We have found, and the Federal Circuit cited, no case since the adoption of Section 282 where this Court or the Federal Circuit purported to find the equitable authority to hold claims invalid. Indeed, the Federal Circuit specifically eschewed the equitable remedies that *were* within its power and that are more than adequate to protect the "policy" concerns the Court expressed (such as holding patents unenforceable, *see, e.g.*, *Minnesota Mining & Mfg. Co.* v. *Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1569 (Fed. Cir. 1992)) for misconduct before the PTO, based on the common law doctrine of unclean hands or, by analogy to the reverse doctrine of equivalents, to limit liability for infringement to the same extent that it would have been prior to reexamination) for a remedy for which it could find -- and has -- no authority to impose.

the Federal Circuit's invalidation of patent claims without statutory authority.

Respectfully submitted,

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February 26, 1996

APPENDIX

No. 94-1296

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

QUANTUM CORPORATION, *Plaintiff-Appellee,*

v.

RODIME, PLC, *Defendant-Appellant.*

(Decided and Filed Sept. 22, 1995.)

Rehearing Denied; Suggestion for Rehearing In Banc Declined Nov. 27, 1995.

Before PLAGER, LOURIE, and RADER, Circuit Judges.

PLAGER, Circuit Judge.

The question in this declaratory judgment action is whether amendments made during a prior reexamination proceeding impermissibly broadened the scope of the patent claims at issue in violation of 35 U.S.C. § 305 (1988),[1/] and, if so, the legal effect thereof. Defendant patentee Rodime PLC (Rodime) appeals the decision of the United States District Court for the District of Minnesota, Civil Action No. 4-93-214. In its decision, the district court granted Quantum

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[1/] Unless specified otherwise, all cites to the United States Code are for the year 1988.

Corporation's (Quantum) motion for summary judgment that Claims 4, 6, 7, 9, 14 and 19-27 of U.S. Patent No. B1 4,638,383 (the reexamined '383 patent) are invalid because they were impermissibly broadened during reexamination. We affirm.

I. BACKGROUND

A.

Rodime is the owner of the reexamined '383 patent, which issued on November 29, 1988. The reexamined '383 patent is directed to a micro hard-disk drive system (3.5 inch drive) suitable for use in portable computers with performance parameters comparable to those available in 5.25 inch disk drive systems. Quantum, the plaintiff in this declaratory judgment action, is the manufacturer of disk drives which, Rodime alleges in its counterclaim, infringe its patent.

The claim limitation at issue in this appeal relates to the storage capability of the hard-disk. The storage capability of a hard-disk is a function of the track density; the greater the track density, the more data that can be stored in a given area of the disk. Track density may be defined in terms of "tracks per inch" (tpi), calculated based on the number of concentric tracks present within an inch along the radius of the hard-disk.

On November 19, 1985, James G. McGinley and Roderick M. Urquhart, two engineers at Rodime, filed a patent application for the invention described above. Claim 1 of this application recited, *inter alia*, a track density of "approximately 600" tpi. The examiner, in a first office action, rejected all the claims as obvious under 35 U.S.C.

§ 103. With respect to the track density limitation in Claim 1, the examiner stated:

> The art described in the preceding paragraph [regarding 5.25 inch disks] demonstrates that such a density is within the state of the art. Such a density would seemingly be achievable on a [3.5 inch] disk in the same manner by which it was achieved on a larger disk. Consequently it would seem that the subject matter of claim 1 -- which is seemingly quite general -- should not be considered patentable.

In a response dated May 23, 1986, applicants cancelled the original claims and inserted new claims some of which recited a track density of "at least 600" tpi. Although applicants had replaced "approximately" with "at least" in the track density limitation of these new claims, they made no reference to this in their response, but instead focused on the difference between the size of their disks (3.5 inch) and those in the prior art (5.25 inch) as a basis for overcoming the examiner's rejection. The examiner subsequently allowed these new claims, and the patent issued on January 20, 1987, as U.S. Patent No. 4,638,383 (the original '383 patent). Claims 4, 6, 7, 9, and 14 of the original '383 patent all recited a track density of "at least 600 concentric tracks per inch."

On September 28, 1987, Rodime, the owner of the original '383 patent pursuant to an assignment from the inventors, requested reexamination of its patent. Finding a substantial new question of patentability, *see* 35 U.S.C. § 303, the United States Patent and Trademark Office (PTO) granted Rodime's request for reexamination of all 16 claims in the original '383 patent. In an office action dated April 19,

1988, the examiner rejected all but two of the original claims. Rodime responded by cancelling certain claims, amending others, and adding dependent Claims 17-31. With respect to the claims at issue in this appeal, Rodime made substantial amendments including changing the track density limitation from "at least 600" tpi to "at least approximately 600" tpi. These claims were allowed, as amended, and the '383 reexamined patent issued on November 29, 1988, as U.S. Patent No. B1 4,638,383. As issued, independent Claims 4, 6, 7, 9, and 14 of the reexamined '383 patent all recite a track density of "at least approximately 600" tpi, and the newly added dependent claims which are at issue in this appeal, i.e. Claims 19-27, either explicitly contain this limitation or incorporate it through their dependency.[2/]

[2/] Illustrative of the amendments made is Claim 4 with the sections within the brackets being the matter that was deleted and the underlined sections indicating the additions made to the claim during reexamination: 4. A computer disk drive system [for operating a micro hard-disk, said disk drive system] comprising: a sealed housing; at least [one] two micro [hard-disk] hard-disks each having a diameter of between 92 and 96 millimeters and each having a plurality of concentrically adjacent tracks on both planar sides thereof, said micro hard-disks fixedly mounted in [a] the sealed housing; means for rotatably supporting said [hard-disk] micro hard-disks; means for rotating said [hard-disk] micro hard-disks; first and second transducer means [having two read/write heads] for writing digital information on and reading digital information from said [hard-disk] micro hard-disks on both planar sides of [said] each micro hard-disk in a format so that [said] each micro hard-disk has digital information stored on [concentric] said concentrically adjacent tracks at a density providing at least 5 Megabytes of storage per [disk] micro hard-disk with the digital information being stored at a density of at least [6000] approximately 600 concentric tracks per inch, said first and second transducer means each comprising two read/write heads; [and,] (continued...)

B.

Quantum filed the present action in the United States District Court for the District of Minnesota on February 26, 1993, seeking a declaration that the reexamined '383 patent is invalid, unenforceable and not infringed. Rodime subsequently filed an answer and a counterclaim for infringement. On February 22, 1994, Quantum filed a motion for summary judgment that Claims 4, 6, 7, 9, 14, and 19-27 of the reexamined '383 patent are invalid under 35 U.S.C. § 305 for being impermissibly broadened by Rodime during reexamination. According to Quantum, Rodime's amendment during reexamination of the track density limitation from "at least 600" tpi to "at least approximately 600" tpi broadened the scope of the claims to cover certain disk drives with approximately but less than 600 tpi that were not covered by the original '383 patent claims, and therefore these claims are invalid under 35 U.S.C. § 305.

[2/](...continued)

positioning means for moving said first and second transducer means between the concentrically adjacent tracks on said [hard-disk] micro hard-disks, said positioning means including: a positioning arm disposed within the sealed housing and mounted for movement relative to said micro hard-disks; a pivot shaft coupled to one end of said positioning arm and supporting said positioning arm for rotational movement relative to said micro hard-disks, four support arms, each supporting one of said heads at one end and each connected to said positioning arm at its other end; and means for moving said positioning arm including a stepper motor having a shaft extending into said sealed housing and means for operating said stepper motor in step increments, each increment causing [said transducer means] said read/write heads to move from one track to the next adjacent track on said [hard-disk] micro hard-disks.

The district court, in an order dated April 11, 1994, granted Quantum's motion for summary judgment. The court, after examining the claims, specification, and prosecution history, concluded that the addition of the word "approximately" to the track density limitation during reexamination was not a mere clarification, as Rodime argued, but was instead a substantive change that expanded the scope of the claims at issue in violation of 35 U.S.C. § 305, and that no reasonable juror could have found otherwise. In support, the court relied on the difference in the ordinary meaning of the disputed claim limitations: a track density of "at least 600 tpi" indicates densities starting at, but greater than 600 tpi, whereas the addition of "approximately" in the track density limitation of the reexamined '383 patent modifies the 600 tpi value, thereby eroding the "not less than" meaning of "at least." Based on these definitions, it followed, according to the court, that the claims had been broadened during reexamination since the reexamined '383 patent covered devices with track densities less than 600 tpi that were not covered by the original '383 patent. The court then concluded, without analysis, that the improperly broadened claims were invalid.

Since the district court's ruling disposed of all the claims which Rodime in its counterclaim had alleged Quantum to infringe, the district court, on April 26, 1994, ordered that final judgment be entered under Fed. R. Civ. P. 58 in favor of Quantum for a declaratory judgment of nonliability and against Rodime for its counterclaim of infringement of the reexamined '383 patent. This appeal followed.

II. DISCUSSION

There are two issues in this case: first, whether Rodime broadened the scope of the claims at issue during reexamination in violation of 35 U.S.C. § 305 by changing the track density limitation from "at least 600 tpi" to "at least approximately 600 tpi," and, second, assuming the claims were impermissibly broadened, the legal effect of violating section 305. We review the district court's grant of summary judgment in favor of Quantum on these issues--that the claims were broadened and are therefore invalid--to determine whether any genuine issues of material fact are in dispute, and whether any errors of law were made. *London* v. *Carson Pirie Scott & Co.*, 946 F.2d 1534, 1537, 20 USPQ2d 1456, 1458 (Fed. Cir. 1991).

A.

35 U.S.C. § 305 states, in relevant part, that "[n]o proposed amended or new claim enlarging the scope of a claim of the patent will be permitted in a reexamination proceeding." An amended or new claim has been enlarged if it includes within its scope any subject matter that would not have infringed the original patent. *In re Freeman*, 30 F.3d 1459, 1464, 31 USPQ2d 1444, 1447 (Fed. Cir. 1994). "A claim that is broader in any respect is considered to be broader than the original claims even though it may be narrower in other respects." *Id.* (quoting *Tillotson, Ltd.* v. *Walbro Corp.*, 831 F.2d 1033, 1037 n.2, 4 USPQ2d 1450, 1453 n.2 (Fed. Cir. 1987)). Accordingly, the claims at issue have been improperly broadened in violation of 35 U.S.C. § 305 if the track density limitation in the claims of the reexamined '383 patent -- "at least approximately

600 tpi" -- is broader than the track density limitation in the claims of the original '383 patent -- "at least 600 tpi."

Whether claims have been enlarged is a matter of claim construction, a question of law subject to complete and independent review on appeal. *Id.* at 1464, 31 USPQ2d at 1447. When construing the meaning of disputed terms in a claim, we look to the claims, specification and prosecution history. *Carroll Touch, Inc.* v. *Electro Mechanical Sys., Inc.*, 15 F.3d 1573, 1577, 27 USPQ2d 1836, 1839-40 (Fed. Cir. 1993). Although a patentee can be his own lexicographer, the words of a claim will be given their ordinary meaning to one of still in the art unless the inventor appeared to use them differently. *Hoganas AB* v. *Dresser Indus., Inc.*, 9 F.3d 948, 951, 28 USPQ2d 1936, 1938 (Fed. Cir. 1993).

Rodime's principle argument on appeal is that the addition of the word "approximately" to the track density limitation only made explicit what was already implicitly included in the claim, and therefore did not expand the scope of the claims at issue. In support of this proposition, Rodime cites *Laitram Corp.* v. *NEC Corp.*, 952 F.2d 1357, 21 USPQ2d 1276 (Fed. Cir. 1991), *Tennant Co.* v. *Hako Minuteman, Inc.*, 878 F.2d 1413, 11 USPQ2d 1303 (Fed. Cir. 1989), and *Kaufman Co.* v. *Lantech, Inc.*, 807 F.2d 970, 1 USPQ2d 1202 (Fed. Cir. 1986). Specifically, Rodime asserts that to one of skill in the art the term "600 tpi" means "approximately 600 tpi." In support, Rodime proffers the testimony of various technical experts who maintain that, because of manufacturing tolerances and variations inherent in rotary actuator drives, industry literature referring to a specific track density value is

understood by those skilled in the art to represent a range. This interpretation, according to Rodime, is consistent with the specification which uses the terms "600 tpi" and "approximately 600 tpi" interchangeably. Since "600 tpi" means "approximately 600 tpi" to one of skill in the art, it necessarily follows, Rodime argues, that one of skill in the art would interpret "at least 600 tpi" to mean "at least approximately 600 tpi." Accordingly, Rodime concludes that the district court erred in not granting summary judgment in their favor, or, at a minimum, concluding that this evidence created a genuine issue of material fact to be resolved at trial.

We disagree. The major flaw in Rodime's argument is that it focuses solely on the term "600 tpi" instead of the claim limitation as a whole, in context. *See United States* v. *Telectronics, Inc.*, 857 F.2d 778, 781, 8 USPQ2d 1217, 1219-20 (Fed. Cir. 1988), *cert. denied*, 490 U.S. 1046, 109 S.Ct. 1954, 104 L.Ed.2d 423 (1989). Even if "600 tpi" means "approximately 600 tpi," as Rodime argues, it is unnecessary to read in an implicit range when interpreting "at least 600 tpi" because this limitation as a whole already expressly represents an open-ended range, i.e., 600 tpi and up. Therefore, that one skilled in the art understands "600 tpi" to connote a range is irrelevant because the limitation in dispute is "at least 600 tpi," and Rodime offered no evidence to show that one skilled in the art understood "at least 600 tpi" to be the same as "at least approximately 600 tpi" or that the patentee defined it as such in the patent or during prosecution.

Absent such a definition or evidence that the claim limitation as a whole has a special meaning to one of skill in

the art, we see no error in the district court's use of dictionary definitions to ascertain the ordinary meaning of the relevant claim limitation. *See, e.g., Hoganas*, 9 F.3d at 951 n.8 28 USPQ2d at 1938 n.8 (using Webster's New World Dictionary, Third Edition, to define the word "straw"). Regarding the limitation "at least 600 tpi," the term "at least" means "as the minimum," *Webster's Third New International Dictionary* 1287 (1986), and therefore when coupled with a specific number sets forth an absolute lower limit of a range, i.e., 600 on up. *See Lantech, Inc.* v. *Keip Mach. Co.*, 32 F.3d 542, 546, 31 USPQ2d 1666, 1670 (Fed. Cir. 1994) ("[T]he term 'at least two' sets forth the minimum number of a particular element required."). The addition of "approximately" which means "reasonably close to,"[3/] eliminates the precise lower limit of that range, and, in so doing extends the scope of the range. The term "at least approximately 600 tpi" therefore defines an open-ended range starting slightly below 600. *See, e.g., Hybritech, Inc.* v. *Abbott Labs.*, 849 F.2d 1446, 1455, 7 USPQ2d 1191, 1199 (Fed. Cir. 1988) (reasonable likelihood of success of proving that accused products with affinities of 4.8 x 10 7 and 7.1 to 7.5 x 10 7 liters/mole literally infringe patent with a recited claim limitation for affinity of "at least about 10 8 liters/mole"); *Ex parte Neuwirth*, 229 USPQ 71, 73 (Bd. Pat. App. & Int. 1985) (addition of the word "substantially" during reexamination as a modifier for "rounded bottom wall" broadened the scope of the claim in violation of 35 U.S.C. § 305).

[3/] *Webster's Third New International Dictionary* 107 (1986).

Since the amended limitation includes subject matter not covered by the original claims, i.e. track densities below 600 tpi, we conclude that Rodime expanded the scope of their claims during reexamination in violation of 35 U.S.C. § 305. To conclude otherwise would force us to alter what Rodime chose to claim as its invention in the original '383 patent, i.e., a track density range starting at 600 tpi. We cannot do that. *E.I. du Pont de Nemours & Co.* v. *Phillips Petroleum Co.*, 849 F.2d 1430, 1433, 7 USPQ2d 1129, 1131 (Fed. Cir.), *cert. denied*, 488 U.S. 986, 109 S.Ct. 542, 102 L.Ed.2d 572 (1988).

Seattle Box Co. v. *Industrial Crating & Packing, Inc.*, 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984) raised similar issues, with similar results. In that case the court evaluated whether a reissued patent claim was "identical" to the original claim. The applicant originally filed a patent application for a device for packaging and safely transporting oil pipes with Claim 1 reciting, *inter alia*, a spacer block having a height "substantially equal to" the pipe diameter. *Id.* at 821, 221 USPQ at 571. Applicants amended this limitation during prosecution, and Claim 1 subsequently issued with a recited spacer block height "greater than" the pipe diameter. *Id.* The patentee subsequently amended this claim during reissue to cover a block height "substantially equal to or greater than" the pipe diameter. *Id.* at 822, 221 USPQ at 571.

The court, in determining whether the patentee was prohibited under 35 U.S.C. § 252, para. 1 from collecting damages for activities occurring prior to the issuance of the reissue patent, had to decide whether the patentee had made

a substantive change to the claims during reissue. In this regard, the district court stated, and we affirmed, that:

> *Seattle Box*, in broadening its claims' scope to cover not only spacer blocks "greater than" but also "substantially equal to" the diameter of the pipes in a bundle, has, in our view, made substantive change to its claims. The original claims cannot reasonably be read as intending, but for some inaccuracy in their expression, the same coverage as the reissue claims. Here, the addition is not a matter of mere clarification of language to make specific what was always implicit or inherent.

Id. at 828, 221 USPQ at 575.

The relevant claim language and prosecution history in our case is remarkably similar to that in *Seattle Box*, and therefore this decision lends further support to the district court's conclusion that the amended claims in our case were also broadened.[4/] First, the original claim limitations in both cases used precise language to define the scope of the coverage. In *Seattle Box*, the original claims recited a spacer block height "greater than" the pipe diameter, whereas in our case the original '383 patent recited a track density of "at least 600 tpi." Although both claims recite open-ended ranges, the lower limit is clearly defined in each claim. Second, in both cases, the claims at issue were amended to include words effecting a broadening of the

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[4/] The test for determining whether a reexamined claim is broader than an original claim under 35 U.S.C. § 305 is the same as that in 35 U.S.C. § 251, last paragraph, for determining whether reissue claims filed more than two years after issuance of the original patent are broader than the original claims. *In re Freeman*, 30 F.3d 1459, 1464, 31 USPQ2d 1444, 1447 (Fed. Cir. 1994).

claim. In *Seattle Box*, applicants added the term "substantially equal to" during reissue, whereas in our case the term "approximately" was added during reexamination.

Finally, in both cases the amended language was initially recited in the claims at issue, but was deleted in response to the examiner's first office action. As mentioned previously, Rodime's initial claims recited a track density of "approximately 600 tpi," but, along with other amendments, were changed to "at least 600 tpi." This not only parallels what occurred in *Seattle Box*, but it also contradicts Rodime's assertion that "approximately" was added during reexamination to clarify the language in the original '383 patent. If "approximately" merely clarifies the phrase "at least 600 tpi," it seems unlikely that this supposedly clarifying language would have been deleted, as it was, during the initial prosecution.

In view of all the foregoing, we conclude, as a matter of law, that Rodime broadened the scope of the claims at issue during reexamination in violation of 35 U.S.C. § 305. Accordingly, we affirm the district court's grant of summary judgment on this issue.

B.

But what are the consequences of such a broadening? Are the claims entirely invalid, or is invalidity limited only to the broadened aspects of the claims, so that the original scope of the claims remains available to the patentee? The district court's analysis concluded when it determined that the reexamined claims were broader than the original claims in the '383 patent, apparently believing that it necessarily followed that the claims at issue are therefore invalid. However, the Patent Act is silent regarding the proper

remedy to be employed by a district court in a patent infringement suit when it determines that claims were improperly broadened during reexamination in violation of 35 U.S.C. § 305. Neither the express words in section 305 nor its legislative history provide any guidance in this situation; they merely recite the prohibition against broadening during reexamination.

35 U.S.C. § 282, which lists various affirmative defenses in a patent infringement suit, allows a defendant in a patent infringement action to assert an invalidity defense based on a failure to comply with any of the statutory requirements in 35 U.S.C. § 251 for reissue applications.[5/] Therefore, a district court could declare that reissued claims are invalid as a matter of law if they were impermissibly broadened in violation of 35 U.S.C. § 251, para. 4.[6/] *See Tillotson Ltd.* v. *Walbro Corp.*, 831 F.2d 1033, 4 USPQ2d 1450 (Fed. Cir. 1987) (reversing a district court's grant of summary judgment of invalidity since genuine issues of material fact existed whether reissued claims filed more than two years

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[5/] 35 U.S.C. § 282 reads in relevant part:

> The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded: (1) Noninfringement, absence of liability for infringement or unenforceability, (2) Invalidity of the patent or any claim in suit on any ground specified in part II of this title as a condition for patentability, (3) Invalidity of the patent or any claim in suit for failure to comply with any requirement of sections 112 or 251 of this title, (4) Any other fact or act made a defense by this title.

[6/] Paragraph 4 of 35 U.S.C. § 251 reads:

> No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

after the original patent were broader than the original claims). However, despite the fact that the prohibition in section 251 against enlarging the scope of claims in reissue applications is analogous to the prohibition in section 305 regarding broadening during reexamination,[7/] section 282 does not specifically mention section 305 as an invalidity defense in a patent infringement suit.

Our precedent does not address this issue either. *In re Freeman*, 30 F.3d 1459, 31 USPQ2d 1444 (Fed. Cir. 1994), was an appeal from a decision of the PTO sustaining an examiner's rejection of claims as impermissibly broadened in violation of section 305. It does not speak to the issue of whether a district court can declare previously issued claims invalid for failure to comply with section 305. *Fortel Corp.* v. *Phone-Mate, Inc.*, 825 F.2d 1577, 3 USPQ2d 1771 (Fed. Cir. 1987) was an appeal from a district court decision in which reexamined claims were found to have been broadened during reexamination in violation of section 305, but the issue in that case was whether the patentee could enforce these broader claims against an accused infringer who had ceased his allegedly infringing activity prior to issuance of the reexamined patent. Our court held that since the reexamined claims were broadened they were not substantively identical to the originally issued claims within the meaning of 35 U.S.C. § 252, para. 1, and therefore the district court properly granted summary judgment that the

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[7/] The only difference between the prohibitions against broadening in section 251 and section 305 is that reissued patent claims can not be broadened more than two years after issuance of the original patent, whereas claims in a reexamined patent can never be broadened.

claims could not be enforced against the defendant.[8/] Validity was not at issue in *Fortel* because the defendant in *Fortel*, unlike the defendant in our case, did not raise it as a defense.

Despite the absence of specific statutory language or precedent of this court in support of the district court's judgment that the claims at issue are invalid, we conclude that, as a matter of law, the district court arrived at the correct result. The purpose of the reexamination process is to provide a mechanism for reaffirming or correcting the PTO's action in issuing a patent by reexamining patents thought to be of doubtful validity. *In re Etter*, 756 F.2d 852, 857, 225 USPQ 1, 4 (Fed. Cir.), *cert. denied*, 474 U.S. 828, 106 S.Ct. 88, 88 L.Ed.2d 72 (1985). Consistent with this overall purpose, Congress enacted section 305 which, while allowing an applicant to amend his claims or add new claims to distinguish his invention over cited prior art, explicitly prohibits any broadening of claims during reexamination. If an applicant fails to claim as broadly as he or she could have, the proper recourse, if within two years of issuance of the patent, is to file a reissue application, *see* 35 U.S.C. § 251, not to remedy this problem in a reexamination proceeding.

As with violations of other statutes in the Patent Act, claims that do not comply with section 305 cannot stand. Rodime agrees, but maintains that the proper recourse is for this court to exercise its inherent equitable powers by

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[8/] 35 U.S.C. § 307(b) states that amended or new claims found to be patentable during reexamination will have the same effect as that specified in 35 U.S.C. § 252 for reissued patents.

restricting the scope of the claims to their original terms, avoiding a holding of infringement against any devices that would not have been covered by any of the original claims as they existed prior to reexamination. *See Texas Instruments, Inc.* v. *United States Int'l Trade Comm'n*, 846 F.2d 1369, 1371-72, 6 USPQ2d 1886, 1889 (Fed. Cir. 1988). We disagree. Although we construe claims, if possible, so as to sustain their validity, *Carman Indus., Inc.* v. *Wahl*, 724 F.2d 932, 937 n.5, 220 USPQ 481, 485 n.5 (Fed. Cir. 1983), it is well settled that no matter how great the temptations of fairness or policy making, courts do not redraft claims. *Autogiro Co. of Am.* v. *United States*, 384 F.2d 391, 395-96, 181 Ct.Cl. 55, 155 USPQ 697, 701 (1967). Moreover, even if we could consider equities, they do not favor Rodime; they broadened their claims during reexamination despite the explicit prohibition against doing so in section 305.

Likewise, the district court cannot remand the case to the PTO to have the broadening language deleted from the claims. *Cf. Green* v. *Rich Iron Co.*, 944 F.2d 852, 20 USPQ2d 1075 (Fed. Cir. 1991) (holding that a district court could not compel a patentee to seek reissue of his patent). To conclude otherwise would discourage instead of encourage compliance with section 305. If the only penalty for violating section 305 is a remand to the PTO to have the reexamined claims narrowed to be commensurate in scope with what the applicant was only entitled to in the first place, then applicants will have an incentive to attempt to broaden their claims during reexamination, and, if successful, be able to enforce these broadened claims against their competitors. This result essentially renders the prohibition in section 305 meaningless. *See In re Bennett*, 766 F.2d 524, 530, 226

USPQ 413, 417 (Fed. Cir. 1985) (Miller, J., dissenting) ("There is no evidence before this court rebutting the basic presumption that Congress shall not be deemed to have done a futile thing."). The likelihood that improperly broadened claims will be held invalid will discourage applicants from attempting to broaden their claims during reexamination.

Our conclusion that the claims at issue are invalid is not inconsistent with 35 U.S.C. § 282. Section 282 does not state that the list of invalidity defenses contained therein are the only ones available; the statute merely says "[t]he following shall be defenses." The express words of section 282 therefore allow for the existence of other invalidity defenses.

We conclude that a violation of 35 U.S.C. § 305 is an invalidity defense in a patent infringement action, and therefore the district court, upon finding correctly that the claims at issue were improperly broadened during reexamination in violation of section 305, properly granted Quantum's motion for summary judgment of invalidity.[9/]

III. CONCLUSION

The judgment of the district court granting summary judgment in favor of Quantum that Claims 4, 6, 7, 9, 14, and 27 of the reexamined '383 patent are invalid as being improperly broadened during reexamination in violation of 35 U.S.C. § 305, is

AFFIRMED.

[9/] We have considered the other objections to the district court's judgment raised by Rodime in their brief, and find none sufficiently meritorious to require overturning of the district court's judgment.

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
FOURTH DIVISION

QUANTUM CORPORATION,

Plaintiff, Civil No. 4-93-214

v. ORDER

RODIME PLC,

Defendant.

This matter is before the court on plaintiff Quantum Corporation's motion for partial summary judgment. Based on a review of the file, record, and proceedings herein, the court grants to motion.

BACKGROUND

This matter involves the alleged invalidity of defendant Rodime PLC's ("Rodime") patent, U.S. Patent No. Bl 4,638,383 ("'383 patent") entitled "Micro Hard-Disk Drive System." The patent describes a micro-winchester disk drive system designed to meet the demands of a portable computer system.[1/]

[1/] The patent as issued consisted of specifications and claims. The term "specification" refers to the written description of the invention in the patent application as filed with the Patent and Trademark Office. 35 U.S.C. §112. The "claim" portion particularly points out and distinctly claims the subject matter which the applicant regards as his invention. 35 U.S.C. §112.

In the early 1980's, Rodime began development of a hard-disk drive system to be used in portable computers.[2/] Its focus centered on the creation of a 3.5" system that, while smaller than the standard 5.25" systems then available, had similar performance parameters. In January 1987 the '383 patent issued. The patent covered Rodime's winchester drive that utilized a rotary actuator designed to move the read/write heads over the disk along an arcuate path that extends in the radial direction with respect to the disk.

After the issuance of the '383 patent, Rodime became enmeshed in a multiplicity of lawsuits. In response to these actions, Rodime requested that the Patent Office reexamine the original '383 patent in September 1987. In April 1988, after performing the reexamination, the Patent Office rejected all but two of the claims. Rodime subsequently filed amended claims in June 1988. Among other changes, Rodime amended the claim phrase "at least 600 concentric tracks per inch" to read "at least approximately 600 concentric tracks per inch." In November 1988, the Patent Office issued a reexamination certificate declaring Rodime's patent, as amended, valid.

After the reexamination proceedings, discussions ensued between the representatives of the parties in which Rodime accused Quantum of infringing the reexamined '383 patent. On February 26, 1993, in response to those discussions, Quantum filed the present declaratory judgment of

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[2/] Hard-disk drives are distinguishable from floppy-disk drives in that they are permanently fixed within the computer itself. They are capable of storing large volumes of data and are a standard in modern computer systems. Due to the requirements of portable computers, the standard hard-drive of the time was not practical.

nonliability for patent infringement against Rodime asserting that the '383 patent was invalid, unenforceable and not infringed. Rodime answered the complaint and filed a counterclaim for infringement.

Quantum now moves for partial summary judgment. Quantum contends that it is entitled to summary judgment due to the invalidity of claims 4, 6, 7, 9, 14, and 19-27 of the '383 patent. Quantum argues that the amendments made during the reexamination proceedings, specifically the addition of the word "approximately" impermissibly broadened the scope of the '383 patent in violation of 35 U.S.C. § 305.[3/]

DISCUSSION

The court applies the same summary judgment standard to motions involving patent claims as it does to motions involving other types of claims. *Avia Group Int'l. Inc.* v. *L.A. Gear California, Inc.*, 853 F.2d 1557, 1561 (Fed. Cir. 1988) ("It is no longer debatable that the issues in a patent case are subject to summary judgment."); *Union Carbide Corp.* v. *American Can Co.*, 724 F.2d 1567, 1571 (Fed. Cir. 1984) ("[T]he statutory purpose of the grant of summary judgment under Fed. R. Civ. P. 56 is without

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[3/] The statute reads in relevant part as follows:

> In any reexamination proceeding under this chapter, the patent owner will be permitted to propose any amendment to his patent and a new claim or claims thereto, in order to distinguish the invention as claimed from the prior art cited under the provisions of section 301 of this title, or in response to a decision adverse to the patentability of a claim of a patent. No proposed amended or new claim enlarging the scope of a claim of the patent will be permitted in a reexamination proceeding under this chapter. 35 U.S.C. § 305.

question intended to be effectuated in patent litigation as in any other type of suit and in accordance with the same standard.")(footnote omitted).

Rule 56(c) of the Federal Rules of Civil Procedure provides that summary judgment "shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material facts and that the moving party is entitled to a judgment as a matter of law." This standard mirrors the standard for judgment as a matter of law under Federal Rule of Civil Procedure 50(a) which requires the trial court to enter judgment as a matter of law if, under the governing law, there can be but one reasonable conclusion as to the verdict. *Anderson* v. *Liberty Lobby, Inc.*, 477 U.S. 242, 250 (1986). Stated in the negative, summary judgment will not lie if the evidence is such that a reasonable jury could return a verdict for the nonmoving party. *Id.* at 248. In order for the moving party to prevail, it must demonstrate to the court that "there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." *Celotex Corp.* v. *Catrett*, 477 U.S. 317, 325 (1986); Fed. R. Civ. P. 56(c). A fact is material only when its resolution affects the outcome of the case. *Anderson*, 477 U.S. at 248. On a motion for summary judgment, all evidence and inferences are to be viewed in a light most favorable to the nonmoving party. *Id.* at 250. The nonmoving party, however, may not rest upon mere denials or allegations in the pleadings, but must set forth specific facts sufficient to raise a genuine issue for trial. *Celotex*, 477 U.S. at 324. Moreover, if a party cannot support each essential element of its claim, summary

judgment must be granted because a complete failure of proof regarding an essential element necessarily renders all other facts immaterial. *Id.* at 322-23. With this standard at hand, the court will consider Quantum's motion for summary judgment.

To rule on this summary judgment motion, the court must determine whether a material issue of fact exists as to the validity of the amended '383 patent.[4/] The threshold requirement in analysis of claim construction is an examination of the claims at issue. *McGill Inc.* v. *John Zink Co.*, 736 F.2d 666, 672; 221 USPQ 944, 948 (Fed. Cir.) *cert. denied*, 469 U.S. 1037 (1984). To determine the validity of the patent, the court reviews the specific claim language, the specification, and the prosecution history. *ZMI Corp.* v. *Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1579; 6 USPQ2d 1557, 1560 (Fed. Cir. 1985). Review of these several factors provides the court a basis for determining the validity of the patent.

Review of the validity of a reexamined patent centers on whether the particular amendment to the claims is substantive so that the scope of the claims is no longer substantially identical to the originally issued claim. *Slimford Mfg. Co.* v. *Kinkead Indus.*, 810 F.2d 1113; 1 USPQ2d 1563 (Fed.

[4/] In analyzing the validity of any patent, there is a statutory presumption of validity that accompanies issuance. 35 U.S.C. § 282; *Panduit Corp.* v. *Dennison Mfg. Co.*, 810 F.2d 1561; 1 USPQ2d 1593 (Fed. Cir. 1987). The presumption has no independent evidentiary significance, however, as it merely serves to allocate to the party claiming invalidity the burden of proving it. *American Hoist & Derrick Co.* v. *Sowa & Sons, Inc.*, 725 F.2d 1350, 1360; 220 USPQ 763, 771 (Fed. Cir.) *cert. denied*, 469 U.S. 821; 224 USPQ 520 (1984).

Cir. 1987). No presumption exists as to whether amendments made during reexamination broaden the scope of the patent. *Laitram Corp.* v. *NEC Corp.*, 952 F.2d 1357, 1362; 21 USPQ2d 1276 (Fed. Cir. 1991). Rather, the determination of the scope of the claims must be reexamined as a question of law. *SSIH Equipment S.A.* v. *USITC*, 713 F.2d 746, 757; 218 USPQ 678, 688 (Fed. Cir. 1983). Amendments are permissible so long as they are mere clarifications of language which make specific what was always implicit or inherent in the patent claims. *Seattle Box Co.* v. *Industrial Crating & Packing, Inc.*, 731 F.2d 818, 828; 221 USPQ 568, 575 (Fed. Cir. 1984). Claims made more definite by adding a term from the specification without a change in the scope of the claims are not substantively changed, and the claims are "legally identical." *Tennant Co.* v. *Hako Minuteman, Inc.*, 878 F.2d 1413, 1417; 11 USPQ2d 1303, 1306-07 (Fed. Cir. 1989); *c.f. Slimford Mfg. Co.* v. *Kinkead Indus.*, 810 F.2d 1113; 1 USPQ2d 1563 (Fed. Cir. 1987). If the language of the claims is undisputed, the district court can interpret or construe the undisputed claims as a matter of law. *Singer Manufacturing Co.* v. *Cramer*, 192 U.S. 265, 275 (1904). Thus, the task presented to the court is to review the inclusion of the word "approximately" to the claims during the reexamination and determine whether that amendment broadened or merely clarified the claims of the '383 patent.

A. Claim Language

The first requirement in claim interpretation is to examine the claim language. *ZMI Corp.*, 844 F.2d at 1579; 6 USPQ2d at 1560. In analyzing claim language, the claim must be read in accordance with the precepts of grammar

and words should be given their plain, ordinary meaning. *In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983). This ordinary and plain meaning should not be challenged unless it appears that the inventor used the words differently. *Envirotech Corp.*, 730 F.2d at 759. Moreover, the meaning which the inventor gives to his words can not be made to depend upon subsequent events, but should appear when the application is filed. *Envirotech Corp.*, 730 F.2d at 759; *Universal Oil Products Co.* v. *Globe Oil & Refining Co.*, 137 F.2d 3, 6; 54 USPQ 504 (7th Cir. 1943), *aff'd* 322 U.S. 471 (1944).

The language at issue is the subject of claims 4, 6, 7, 9, 14 and 19-27 of the '383 patent. Specifically, those claims rely on the phrase "at least approximately 600 concentric tracks per inch ["tpi"]." This phrase represents the language of the claims after Rodime's reexamination amendment. The initial patent application claims used the phrase "approximately 600 tpi." After the examiner's first rejection the phrase was amended, and the patent issued with the crucial phrase reading "at least 600 tpi." During reexamination the claims were again rejected and Rodime amended the claims to include the word "approximately," thus providing the contested phrasing. Quantum contends that the addition of the word "approximately" during reexamination, when used in combination with "at least," improperly broadened the scope of the claims.

The words "at least" mean ". . . at the lowest estimate; at the smallest concession or claim; in the smallest or lowest degree; at the smallest number." *Black's Law Dictionary* 1438 (5th. ed. 1979). The use of "at least" to modify "600 tpi" suggests that "600 tpi" is a minimum or a lowest value

of the track density achieved in the invention. Rodime's use of "at least" in its claims would indicate that its drives have densities starting at, but greater than, 600 tpi. A similar meaning was attributed to "at least" by the Third Circuit in *Allen-Bradley Co.* v. *Erie Resistor Corp.*, 104 F.2d 150 (3d Cir. 1939). The claim at issue there incorporated the phrase ". . . but to substantially graphitizing temperature *at least* 1927 degrees Centigrade. . . ." *Id.* at 151 (emphasis added). In determining whether infringement had occurred, the court stated that the use of "at least" in that phrase meant that temperatures included "would not include temperatures of *less than* 1927 degrees centigrade." *Id.* at 152 (emphasis added). The court further stated that the inventor, due to the inclusion of this language, was estopped from asserting that lower temperatures would be covered. *Id.*

The word "approximately" is defined "in the sense of an estimate merely meaning more or less, but about and near the amount, quantity, or distance specified." *Black's Law Dictionary* 94 (5th ed. 1979). The position of "approximately" in the phrase at issue requires that it be read to modify the value 600 and therefore, "600 tpi" is no longer an absolute value. The addition of the word "approximately," a word that is unquantifiable and indefinite, erodes the "not less than" meaning of "at least."

Quantum argues that the addition of "approximately" which erodes the definiteness of "at least," was an intentional and necessarily broadening change in the claims, because without the addition of "approximately," the claims language did not cover the invention. Quantum bases its

position on the notes of Dr. Jack McGinley[5/], a named inventor. In his notes, Dr. McGinley calculated that 596 tpi was the maximum density achieved by the Rodime drive. *Quantum Ex. G and H.* According to Dr. McGinley's calculations, the average track density was only 572 tpi with a maximum density of less than 600 tpi with a range between 559 tpi and 596 tpi. *Quantum Ex. H.* No density greater than 600 was ever achieved. The drive could not be said to have a density of "at least" 600 tpi when no measured value had ever equalled or exceeded 600 tpi. Therefore, inclusion of "approximately" changed the meaning of the original descriptive phrase to include the invention's achieved results. As amended, the claimed density would be read as "about or near 600 tpi." Thus, focusing on a literal interpretation, Quantum argues that the meaning of the claims has been substantively changed, not merely clarified.

In support of its motion for summary judgment based on the substantive change in the claims language, Quantum relies on *Seattle Box Co.* v. *Industrial Crating & Packing, Inc.*, 731 F.2d 818; 221 USPQ 568 (Fed. Cir. 1984). In *Seattle Box*, the Federal Circuit held that a change from "greater than" to "substantially equal to or greater than," in the claim, was a substantive change and thus impermissibly broadened the scope of the patent. *Id.* at 827-28. The *Seattle Box* court went on to observe that the change was "not a matter of mere clarification of language to make specific what was always implicit or inherent." *Id.* at 828.

[5/] The Patent and Trademark Office spelled the named inventor's name "McGinlay" on the patent application. The parties memoranda spell his name "McGinley." While the court is unsure which spelling is correct, it will defer to counsel.

Quantum asks this court to find Rodime's changes to be similarly substantive. Relying simply on the ordinary usage of the words in the contested phrase, the court finds that the inclusion of the word "approximately" appears to impermissibly broaden the scope of the claims.

However, Rodime asserts that the words in the contested phrase are not used ordinarily and attempts to distinguish this case from *Seattle Box* on that basis. In *Seattle Box* the disputed terms were used to modify the word "diameter" which was not used as a term of art. *Id.* at 827-828. In this case Rodime contends that "600 tpi" is a term of art. Although the addition of the word "approximately" appears to broaden the scope of the claim, Rodime argues that "600 tpi" is a term of art that "approximately" merely clarifies. Thus, the language of the claims at issue is in dispute and other tools of construction must be used. *McGill Inc.*, 736 F.2d at 672-74; 221 USPQ at 948-50. If "600 tpi" is a term of art, it may have attributed to it a specialized meaning differing from its ordinary meaning.

B. Specification

When the meaning of the claims language is disputed, reference is made to the specification and prosecution history. *McGill Inc.*, 736 F.2d at 672-74; 221 USPQ at 948-50. This further inquiry is required because patent law allows the inventor to be his own lexicographer. Since the inventor is not confined to normal dictionary meanings in describing his invention, the use of "verbal license" often augments the difficulty of understanding the claims. *Fromsom* v. *Advance Offset Plate, Inc.*, 720 F.2d 1565, 1569 (Fed. Cir. 1983). Reference to "[t]he specification aids in ascertaining the scope and meaning of the language

employed in the claims inasmuch as the words must be used in the same way in both the claims and the specification." *Autogiro Co. of America* v. *United States*, 384 F.2d 391; 155 USPQ 697 (Ct. Cl. 1967). "The use of the specification as a concordance for the claims is accepted by almost every court, and is a basic concept of patent law." *Id.* Due to this ability of the inventor to define his own terms, the specification and claims must be read as they would be read by one of ordinary skill in the art at the time of the invention.[6/] *American Hoist & Derrick Co.* v. *Sowa & Sons, Inc.*, 725 F.2d 1350; 220 USPQ 763 (Fed. Cir.) *cert. denied*, 469 U.S. 821; 224 USPQ 520 (1984).

Rodime forwards two arguments in support of its claim that the ordinary meaning of the contested phrase "tracks per inch" has been altered in the pendent language. First, Rodime indicates that two references to "tpi" are made in the specification. In the first reference, Rodime cites an objective of the invention as providing storage density of "*approximately* 600 tracks per inch." Col. 3, lines 1-3 (emphasis added). The second reference is provided in a table summary which lists "tracks per inch" as "600." Col. 7, lines 1-43. There is no indication whether the table reference is to an average or an absolute value, and both of the references are made without explanation or elaboration. Rodime argues that the use of "approximately" in the specification should be given special significance when that word was later amended into the claim.

[6/] The specification must convey clearly to those skilled in the art the information that the applicant has invented the specific subject matter later claimed. *Chisum on Patents*, § 7.04 (1993).

While the specification and claims are to be read together, sometimes the wording used in the specification is different than the wording used in the claim. The Federal Circuit has held that the amendment of a claim during reexamination to include words already in the specification does not amount to a substantive change in the patent. *Tennant Co.* v. *Hako Minuteman Inc.*, 878 F.2d at 1417; 11 USPQ2d at 1306-07. In *Tennant*, the inventor amended the claim during reexamination. As originally granted, the claim read ". . . a movable first wall section, ..." *Id.* at 1417. After being amended, the claim read ". . . a movable first bottom wall section, ..." *Id.* The court, in determining that the amendment made no substantive change, cited several references to a "movable bottom wall" in the specification. *Id.* Thus, "common sense" dictated that the claim should be read so that the "movable first wall section" was the "movable bottom wall." *Id.* As interpreted, the amendment made during reexamination was allowable because it was obvious and did not substantively change the claim. *Id.*

Such a situation does not exist here. In *Tennant*, the court noted that the amendment made the claim more definite by indicating that the "first wall section" was the "first bottom wall section." 878 F.2d at 1417. Here, Rodime amended the claims to include the word "approximately" as a modifier of "600 tpi" which does not make the claims more definite. Rather than limiting the scope of the patent, as in *Tennant*, the amendment by adding "approximately" broadens the scope by incorporating an indefinite term. This expansion of the scope of the patent during reexamination is impermissible. 35 U.S.C. § 305.

Rodime's second argument is based on the assertion that one of the ordinary skill in the art would understand that "600 tpi" implies a range of values. Specifically, Rodime contends that the inclusion of a single value (600) in the specification language would be recognized by one skilled in the art as "merely a recitation of a nominal value." In support of this position Rodime submits that declaration of its expert witness, Anthony N. LaPine. LaPine states that it is well established in the disk-drive community that the listed density is only a nominal value. Due to the construction of disk drives, the density varies across the disk and manufacturing tolerances exist because of these variations. It is inherently impossible to have an exact density, and because of this inherent inexactness, it is an industry custom to regard the density listed as only an approximation and nothing more. *LaPine Declaration, ¶ 9-18, 22.*

Based upon LaPine's understanding of "tracks per inch" in the computer industry, Rodime argues that its addition of "approximately" during the reexamination did not broaden the claims, but merely served to clarify what was already self-evident to one of ordinary skill in the art. *LaPine Declaration, ¶ 14.*

While LaPine's declaration is informative as to the understanding in the computer industry, it is insufficient to show that a genuine issue as to material fact exists. LaPine never states that he, as a person of ordinary skill in the art would interpret the value used by Rodime, "600 tpi," as encompassing the actual invention. Instead, his declaration merely states the general basis of understanding by those skilled in the art, that cited values for "tracks per inch" are inherent approximations.

In addition, neither the opinion of LaPine nor Rodime's other evidence ever establishes that a nominal value may be used to describe a range when that nominal value is, itself, not within the range. Based upon these inadequacies, Rodime fails to establish that one of ordinary skill in the art would interpret the phrase in a manner inconsistent with its ordinary meaning.

Review of the specification fails to support Rodime's claim that the words used in the challenged phrase have alternative meanings. The movement of the word "approximately" from the specification to the claim did not provide any self-evident clarification. Similarly insufficient was the evidence provided to show that one of ordinary skill in the art would use the contested words with a different meaning such that they should not be given their ordinary accustomed meanings. Thus, the court viewing the evidence in the light most favorable to the nonmoving party, finds that a reasonable jury could not find that the amended claims were not improperly broadened by the addition of the word "approximately."

C. Prosecution History

The prosecution history[7/] is always relevant to proper claim interpretation. *SSIH Equipment*, 718 F.2d at 376; 218 USPQ at 688. "The prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed

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[7/] The prosecution history consists of all the correspondence, filings and actions taken by the patent examiner and the applicant from the time of the initial filing of the application until the ultimate determination regarding the patent.

during the prosecution in order to obtain claim allowance." *Standard Oil Co.* v. *American Cyanamid Co.*, 774 F.2d 448, 452; 227 USPQ 293, 296 (Fed. Cir. 1985).

During the original prosecution of the '383 patent, the Patent and Trademark Office examiner rejected the submitted claims as being obvious over prior art. The cited prior art disclosed disk storage densities of "approximately 600 tracks per inch." The examiner posited that since such results already could be achieved on the 3.5" disk, no patentable invention existed. *Office Action, May 7, 1986.* Rodime responded by canceling the original claims and inserting several new claims. The new claims listed densities of "at least 600 concentric tracks per inch." *Amendment, May 23, 1986.* No explanation was provided for this change of language from "approximately" to "at least," and the patent ultimately issued.

During the reexamination proceeding, the examiner again rejected the claims based on prior art describing disk densities of "at least 600 tpi." *Office Action, April 19, 1988.* The examiner stated that by applying the 5.25" technology to 3.5" drive systems, the track per inch densities described in the prior art would have been obvious to one of ordinary skill in the art. *Id.* Rodime responded by amending the claims to include "approximately" and attempted to distinguish its invention from the prior art.[8/]

[8/] Specifically, Rodime noted that the prior art descriptions cited by the examiner all related to 5.25" systems. When applied to the new 3.5" technology, the old art would only provide densities of 350 and 515 tpi. *Amendment, June 20, 1988*, at 34-35. Rodime further argued that the prior art cited by the examiner could not have achieved a density

(continued...)

Review of the prosecution history reveals that, in attempting to distinguish the invention from the prior art, Rodime changed the language of its claims several times. When the claim was finally allowed it read ". . . at least approximately 600 concentric tracks per inch. . . ." At no point during the prosecution history, prior to the reexamination amendment, is the entire phrase "at least approximately 600 tpi" found. In fact, throughout the prosecution, Rodime continually changed the words modifying the achieved density. As it now exists, the phrase consists of three words that were the basis of several previous rejections.

These progressive changes distinguish Rodime's amended claims from the claim at issue in *Tennant*. In *Tennant*, the court noted numerous references to the "movable bottom wall" in the specification. These prior references indicated that the addition of "bottom," made by amendment during reexamination, only clarified what was already self evident. In this case, the entire phrase "at least approximately 600 concentric tracks per inch" is never seen in the prosecution

---

[2/](...continued)
of 600 tracks per inch. *Id.* at 41-42. Rodime based these statements on several assertions. First, Rodime stated that the current technology would have to be shrunk by a factor of 0.7 and, at that time, equipment of that size did not exist. *Id.* at 28-32. A second problem centered round the relationship between the functioning of the smaller components and the effect that temperature changes would have on the components based upon coefficients of expansion in aluminum and steel. *Id.* at 31. Finally, Rodime argued that the use of a linear actuator, taught by the prior art, was not practicable at the 3.5" size. Based upon these shortcomings of the prior art, Rodime claimed to have developed the rotary actuator to accomplish high track densities on the smaller scale. *Office Action, September 2, 1988.*

history prior to the reexamination amendment. Rodime cannot point to any preexisting uses of the entire phrase to demonstrate that the amendment merely clarified and did not broaden the claim. In fact, the opposite is shown. Therefore, the prosecution history shows that amendments made during the original prosecution disclaimed certain words in an attempt to gain issuance of the patent and the subsequent reexamination amendment reincorporated those words. The reincorporation has the effect of improperly broadening the claim.

CONCLUSION

In this motion, Quantum Corporation moves for partial summary judgment claiming that the Rodime '383 patent is invalid, unenforceable, and not infringed. The dispute arises from Rodime's addition of the word "approximately" to several of the claims during reexamination so that the claims, as issued, read ". . . at least approximately 600 concentric tracks per inch. . . ." Inclusion of the word "approximately" during reexamination broadens the claims in violation of 35 U.S.C. §305. Based upon a review of the actual claim language, the specification in the patent, and the prosecution history of the patent: (1) the court finds that the addition of the word "approximately" during reexamination impermissibly broadened the scope of the claim; (2) no genuine issue of material fact exists that would allow a reasonable jury to conclude otherwise. Therefore, Quantum's motion should be granted.

Accordingly, IT IS HEREBY ORDERED that plaintiff Quantum Corporation's motion for partial summary judgment as to the invalidity of claims 4, 6, 7, 9, 14, and 19-27 is granted.

Dated: April 11, 1994

/s/

David S. Doty, Judge
United States District Court

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
FOURTH DIVISION

QUANTUM CORPORATION,

Plaintiff, Civil No. 4-93-214

v. ORDER

RODIME PLC,

Defendant.

This matter is before the court on the parties' joint motion for entry of final judgment pursuant to Rule 58 of the Federal Rules of Civil Procedure. On April 11, 1994, the court entered an order granting plaintiff Quantum Corporation's motion for summary judgment of invalidity of claims 4, 6, 7, 9, 14 and 19-27 of U.S. Patent No. B1 4,638,383 ("the reexamined '383 patent"). Based on a review of the file, record and proceedings herein, IT IS HEREBY ORDERED that final judgment is entered under Fed. R. Civ. P. 58 in favor of Quantum Corporation on is complaint for a declaratory judgment of nonliability for alleged infringement of the reexamined '383 patent and against defendant Rodime PLC on its counterclaim for patent infringement of the reexamined '383 patent.

LET JUDGMENT BE ENTERED ACCORDINGLY.

Dated: April 26, 1994

/s/
David S. Doty, Judge
United States District Court

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

94-1296

QUANTUM CORPORATION,

Plaintiff-Appellee,

v.

RODIME PLC,

Defendant-Appellant.

ORDER

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

ORDER

A combined petition for rehearing and suggestion for rehearing in banc having been filed by the APPELLANT, and a response thereto having been invited by the court and filed by the APPELLEE, and the petition for rehearing having been referred to the panel that heard the appeal, and thereafter the suggestion for rehearing in banc and response having been referred to the circuit judges who are in regular active service,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, DENIED and it is further

ORDERED that the suggestion for rehearing in banc be, and the same hereby is, DECLINED.

The mandate of the court will issue on December 4, 1995.

FOR THE COURT,
FRANCIS X. GINDHART, CLERK

Dated: November 27, 1995

By /s/
Diane M. Frye
Chief Deputy Clerk

cc: MARGARET PFEIFFER
JOHN F. LYNCH

QUANTUM CORP. V. RODIME PLC, 94-1296 (DCT - 4:93CV214)

[STAMP]
FILED
U.S. COURT OF APPEALS FOR
THE FEDERAL CIRCUIT
NOV 27 1995
FRANCIS X. GINDHART, CLERK

****
* Note: Pursuant to Fed. Cir. R. 47.6, this order is not citable as precedent. It is a public record. *
****

35 U.S.C. § 305

Conduct of Reexamination Proceedings.

After the times for filing the statement and reply provided for by section 304 of this title have expired, reexamination will be conducted according to the procedures established for initial examination under the provisions of sections 132 and 133 of this title. In any reexamination proceeding under this chapter, the patent owner will be permitted to propose any amendment to his patent and a new claim or claims thereto, in order to distinguish the invention as claimed from the prior art cited under the provisions of section 301 of this title, or in response to a decision adverse to the patentability of a claim of a patent. No proposed amended or new claim enlarging the scope of a claim of the patent will be permitted in a reexamination proceeding under this chapter. All reexamination proceedings under this section, including any appeal to the Board of Patent Appeals and Interferences, will be conducted with special dispatch within the Office.

35 U.S.C. § 282 (para. two)

Presumption of Validity; Defenses.

The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded:

(1) Noninfringement, absence of liability for infringement or unenforceability,

(2) Invalidity of the patent or any claim in suit on any ground specified in part II of this title as a condition for patentability,

(3) Invalidity of the patent or any claim in suit for failure to comply with any requirement of sections 112 or 251 of this title,

(4) Any other fact or act made a defense by this title.

35 U.S.C. § 251 (paras. three & four)

Reissue of Defective Patents.

The provisions of this title relating to applications for patent shall be applicable to applications for reissue of a patent, except that application for reissue may be made and sworn to by the assignee of the entire interest if the application does not seek to enlarge the scope of the claims of the original patent.

No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MINNESOTA

QUANTUM CORPORATION,	)	
Plaintiff-Counterclaim Defendant,	)	Civil Action No. 93-CV-214
v.	)	
RODIME PLC, Defendant-Counterclaimant.	)	

DECLARATION OF ANTHONY N. LaPINE IN SUPPORT OF RODIME PLC'S MEMORANDUM OF LAW IN OPPOSITION TO QUANTUM CORPORATION'S MOTION FOR SUMMARY JUDGMENT OF INVALIDITY OF CLAIMS 4, 6, 7, 9, 14 AND 19-27

I, ANTHONY N. LaPINE, do hereby declare under penalty of perjury that the following facts are true and correct to the best of my knowledge, information and belief:

1. Since 1956 I have been a resident of the San Francisco Bay area and am currently residing in Los Gatos, Santa Clara County, in California. I do business as LaPine Inc. D/B/A for Anthony N. LaPine.

2. I make this declaration in support of Rodime PLC's memorandum in opposition to Quantum Corporation's motion for summary judgment of invalidity of claims 4, 6, 7, 9, 14 and 19-27 of U.S. Patent No. B1 4,638,383 ("the

'383 patent"). If I am called to testify at a hearing on this motion I can and will testify of my own knowledge and/or belief to each and every one of the facts set forth herein. I have reviewed Quantum's motion papers in connection with this declaration.

3. I hold a Bachelors and Masters degree in Electrical Engineering and an MBA from the University of San Francisco. In addition I am an alumnus of the Stanford Graduate School of Business through their executive program.

4. I have been involved in the disk drive industry since I joined IBM in 1965. From 1965 to 1969 I was employed by IBM as an engineer in its disk drive technology organization. At IBM I became the company's expert in "data separation" and "VFO" circuitry. From 1969 to 1980 I was employed at Memorex and held various positions in engineering, quality assurance and general management, with my final position at Memorex being Vice President and General Manager of the disk drive division.

5. After leaving Memorex I spent a short while at International Memories, Inc., a manufacturer of 8-inch Winchester disk drives as Chief Operating Officer. I subsequently joined Irwin Magnetics, a disk and tape drive developer at which time Irwin Magnetics was developing a 5.25" tape and disk product. I was Chief Operating Officer at Irwin Magnetics. I left Irwin Magnetics in July 1983 and incorporated LaPine Technology for the purpose of developing a 3.5 inch Winchester disk drive for the OEM market. I sold LaPine Technology on December 29, 1986, to its joint venture partners, Prudential and Kyocera. Since that time I have worked as a consultant in the disk drive

industry and otherwise. In addition, I lecture at the University of San Francisco, most recently on the subject of Managing Rapid Product Cycles. I was recently honored by the San Jose State University with the 1993 Engineering Award of Distinction.

6. I have read and am familiar with the subject matter described in the specification of the '383 patent.

7. A hard-disk drive is an electro-mechanical device that in some respects is similar to a phonograph. Hard-disk drives incorporate one or more hard-disks coated with magnetic material on which data, in the form of electro-magnetic information, is stored on concentric "tracks." The disks are spun at high speed while electro-magnetic "read/write heads" move across the surface of the disks recording and retrieving ("writing and reading") data. The device is packaged in a "housing" that protects the workings of the drive from damage and contamination.

8. In a rotary actuator drive, the type described in the '383 patent, the read/write heads do not move in a straight line along the radius of the disk, but rather move in an arcuate path from an outer track to an inner track. The diagram at Exhibit 15 of the Altmiller declaration is a depiction of basic features of a rotary actuator hard-disk drive.

9. Because a rotary actuator does not move in a straight line, the track density is not constant across the disk surface, but varies from an outer track to an inner track.

10. "Track density" as normally presented in disk drive product literature is defined in terms of tracks per inch ("tpi") and is calculated based on the number of concentric

tracks present on the disk within each inch or increment thereof measured along the radius of the disk.

11. The track density at a given point on the disk surface is a function of the relative position of the actuator.

12. Variations arising from manufacturing and the variation in track density across the disk surface in a rotary actuator drive makes it impossible to state precisely the track density for a given drive by stating only a single value.

13. It is common in the disk drive industry to state a single value for the track density of a disk drive.

14. Persons skilled in the art know that the value stated for track density in product literature is only a nominal value and is inherently an approximation.

15. Because of these variations, a tolerance is almost always specified for the manufacture of a drive, giving some leeway in the actual track spacing for the drive as produced.

16. The existence of manufacturing tolerances is known in the art.

17. It is common to state the track density of a disk drive as a single numerical value without reciting the tolerance.

18. Because of the variations inherent in a rotary actuator drive and because of tolerances, track density is difficult to measure precisely.

19. Disk drive product manuals and product specification literature almost always give a single numerical value for track density.

20. Statements of track density in product literature do not recite the range that would be inherent because of the use of

a rotary actuator or the range that would be inherent due to manufacturing tolerances.

21. The single numerical value given in product literature for track density will not reflect an actual track density at all points on the disk; persons skilled in the art know that a range is inherent.

22. Persons skilled in the art recognize that the recitation of a single numerical value for track density is merely a recitation of a nominal value.

23. In my opinion, the term "approximately" (which was added during the reexamination of the '383 patent so that the disputed phrase in claims 4, 6, 7, 9, 14 and 19-27 was amended to read "at least approximately 600 concentric tracks per inch"), was inherent in those claims as originally issued.

Executed this 6th day of October, 1993, at Los Gatos, California.

/s/

ANTHONY N. LaPINE

* * *

SUMMARY OF THE INVENTION

* * *

4,638,383

[column] 3

Another object of the present invention is to provide a micro-Winchester disk drive system in which data is stored at a density of approximately 600 tracks per inch.

* * *

The micro-Winchester disk drive system of the present invention was developed to provide a disk drive system particularly suited to meet the demands of a portable computer system. The terminology micro-Winchester disk refers to a Winchester disk of 85-100 mm in diameter, with the preferred embodiment being approximately 96 mm. A Winchester disk of this size can also be referred to as a "3-1/2 inch" Winchester disk. The micro-Winchester disk drive system was developed to incorporate the 600 tracks per inch open loop positioning capability. This new disk drive system by virtue of its small size and vibration isolation is ideally suited for use in portable computer systems.

* * *

Each of the hard-disks is mounted for rotation within the housing of the hard-disk system of the present invention. In accordance with the preferred embodiment, each of these hard-disks is 96 mm in diameter. A transducer, which

includes two read/write heads for each disk within the system, one head positioned on each side of the disk, writes digital information on and reads digital information from the hard-disk. The disk drive system of the present invention operates so that such information is stored on the disk at a density of approximately 600 concentric tracks per inch. A positioning mechanism moves the transducer between the tracks on the computer disk for writing information on the disk and reading information from the disk.

* * *

A summary of the important performance parameters is given below:

GENERAL PERFORMANCE

Disks	:	1,2
Heads	:	2,4
Unformatted capacity (Megabytes)	:	6.38,12.75
Formatted capacity (typical)		
Per drive (Megabytes)	:	5.0,10.0
Per track (bytes)	:	8192
Per sector (bytes)	:	256
Sectors per track	:	32
Cylinders	:	306
Transfer rate (M bits/s)	:	5
Seek times (ms) (including settling)		
Track to track	:	18
Average	:	85
Maximum	:	180
Average latency (__)	:	8.3
Flux reversals per inch (max)	:	11,050
Tracks per inch	:	600
Rotational speed (_____)	:	3600

A. Circular adhesive labels that are placed over openings into the drive.

Q. Okay. And when you indicated the breather filter, that's located on the -- that's visible on the inside of the top cover of that exhibit?

A. That's correct.

Q. Okay. With reference again to the sentence in this manual, the items in parentheses Heads, Media, Actuator, et cetera, it's your understanding that those elements are within the sealed environmental enclosure as indicated there?

A. That's correct.

Q. Could you tell me what the actuator is in this drive or what components would make up the actuator?

A. The actuator is the mechanism that positions the recording heads. I can be more specific.

Q. Please.

A. The recording head, the suspension, the E block, the actuator shaft and the voice coil and magnet assembly.

Q. Okay. Turning to Page 13 of the manual, there is a chart listing certain characteristics of three models in the ST1480 family. There is a row labeled Track/Inch, and for each of those models is an entry 1,760. Is it your understanding that the drive models in this family had a track density of 1,760 track per inch?

A. Nominally 1,760 tracks per inch, correct.

Q. When you say "nominally," what do you mean?

A. Meaning that the exact tracks -- the exact spacing of any given track would be a function of the radial position of the actuator and manufacturing tolerances, that the mean positioning of those tracks would be 1,760.

Q. Okay. Turning the page to Page 14, Section 5.2.1 entitled Seek Time, has an entry for something called a Single Track Seek. Do you know what a single track or what that entry single track refers to?

A. Yes, I do.

Q. Can you tell me what that would be?

A. It refers to the amount -- let me rephrase. You're asking what the phrase single track means or what the phrase single track seek time means?

Q. Well, the document says single track. It's under the heading single track -- it's under the heading Seek Time. If you could just explain what that entry is meant to refer to.

A. That entry is meant to refer to the amount of time that it takes for the actuator to move the heads from one track or cylinder on the drive to the adjacent track or cylinder.

Q. Turning to Page 35 of this document, can you

PLAINTIFF'S EXHIBIT

1011

Seagate

ST1480 Family:

ST1400N, ST1401N, ST1480N

Product Manual

Volume 1

5.0 PERFORMANCE CHARACTERISTICS

5.1 INTERNAL DRIVE CHARACTERISTICS (Transparent to User)

	ST1480N	ST1401N	ST1400N	
Drive Capacity	492	390	383	MByte (UNF)
Read/Write Heads	9	9	7	Data (Max)
Bytes/Track	37037	39394	28830	(Bytes (Avg)
Bytes/Surface	54	43	54	Mbytes
Tracks/Surface, Total	1476	1113	1476	Tracks (user accessible)
Tracks/Inch	1760	1760	1760	TPI
Servo Heads	1	1	1	
Internal Data Rate	16.8-25.6	19.8-25.6	16.8-25.6	Mbits/second (variable with zone)
Disc Rotational Speed	4412	4412	4412+ 0.5%	r/min
Average Rotational Latency	6.80	6.80	6.80	ms

date of the document?

A. Not very much.

Q. Could you tell whether that was done after the change was made or before the change was made?

A. I don't know.

Q. Now, you also testified last week about 600 tpi. To a man of ordinary still in the art in 1983 or '84, when tpi for a rotary actuator was stated as being a certain number of tpi, such as 600 tpi, how did that differ from someone stating a tpi of approximately 600 tpi, for example?

MR. LIMBACH: Objection to the form of the question.

THE WITNESS: For rotary actuators they're, to a man of ordinary skill in the art, equivalent.

MR. ALTMILLER: I'll ask the reporter to mark as Exhibit 439, a memo to Norman White from Dave Williams dated 11-3-83.

(PLAINTIFF'S EXHIBIT 439 IS MARKED FOR IDENTIFICATION.)

MR. ALTMILLER: Q. Can you identify this document for me, Dr. White?

A. It's a document from Dave Williams, who was our European sales manager, to myself. Subject RO 352 and Hanover Fair, dated --

a removable drive?

A. The definition of that has changed with this product in that the whole drive, including electronics, everything, can be detached from the host computer.

Q. When it's detached, is it still sealed?

A. Oh, yes, it's still sealed. It's detached in the electrical connection sense only.

Q. Is that any different than the SyQuest removable drive?

A. It's completely different from that, in that the SyQuest, only the media came out with the cartridge. All the other aspects, the heads, electronics, changed with the host machine.

Q. Was the SyQuest a Winchester drive?

A. No, it doesn't really come under that definition, no.

Q. What about, was the form factor of the SyQuest in the same category as the form factor that you were developing at Rodime?

A. No, it was really -- we regarded it as a five-and-a-quarter form factor category.

Q. When you said that the 206 or the 203E had a track density of 600 tpi, were you referring to the maximum track density?

A. Did I say that today or?

Q. Well, I believe you adopted some testimony that you had given in the IBM case in that regard?

A. I would say that was an approximate number; it's not an exact number.

Q. What do you mean by that?

A. It's -- on the drives we've discussed today, that number varies across the surface of the disk. So we take possibly a mean value of that to refer to the track density.

Q. So do you believe that this 600 tpi in the 203E or 206 or 208 was an average value?

A. I can't comment on whether it was average or maximum. I just know it was a number. It was an approximate number referring to the track density.

Q. What was the basis of your knowledge that that was the number?

A. It was stated to me at the time by other people within the company.

Q. Now, during one of the breaks I asked you -- you had made a statement that you didn't invent anything, and I said what do you mean? Could you repeat what you told me?

MR. LYNCH: If we're going to get into your conversations outside of this room, you better get into all of them. We're not going to have a partial waiver here,

REEXAMINATION CERTIFICATE (954th)

United States Patent [19] [11] **B1 4,638,383**
McGinlay et al. [45] **Certificate Issued: Nov. 29, 1988**

[54] **MICRO HARD-DISK DRIVE SYSTEM**

[76] **Inventors:** **James G. McGinlay**, 103 Ralston Drive, Kirkcaldy; **Roderick M. Urguhart**, 10 Balgeddie Way, Glenrothes, both of Scotland

Reexamination Request:

No. 98/001,339, Sep. 28, 1987

Reexamination Certificate for:

Patent No: **4,638,383**

Issued: **Jan. 20, 1987**

Appl. No.: **790,621**

Filed: **Nov. 19, 1985**

[*] Notice: The portion of the term of this patent subsequent to Feb. 4, 2003 has been disclaimed.

Certificate of Correction issued Nov. 10, 1987.

[SEAL]

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS, Washington, D.C. 20231

REEXAM CONT NO	FILING DATE	PATENT UNDER REEXAMINATION		ATTORNEY DOCKET
90/001,339	09/28/87	PAT NO 4638383	0	59780-2

JOHN C. ALTMILLER
KENYON & KENYON
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WASHINGTON, DC 20036

EXAMINER	
CARDILLO JR,R	
ART UNIT	PAPER NUMBER
285	[handwritten:"13"]

DATE MAILED: 04/19/88

This is a communication from the examiner in charge of this reexamination.

COMMISSIONER OF PATENTS AND TRADEMARKS

☒ Responsive to the communication(s) filed on **[handwritten: "12/14 and 2/26.88"]**

☐ This action is made final.

* * *

Part II. SUMMARY OF ACTION:

1.☒ Claims **[handwritten: "1-16"]** are subject to reexamination.

2.☐ Claims _____ have been cancelled.

3.☐ Claims _____ are confirmed.

4.☒ Claims **[handwritten: "13-14"]** are allowed. **[handwritten: "Patentable"]**

* * *

1. It is noted that an issue not within the scope of reexamination proceedings has been raised. Claim 1-2, 12 and 16 all include the limitation that the positioning means be arranged "to substantially limit the total variance of the angle of said transducer means to a line tangential to each of said concentric tracks..." which is not clear. If there is a "limit" intended relative to the angle between some part of a transducer (which part, the head gap?) and the tangent to each concentric track, this is not clear nor is the size of any such limit. It is further not seen how one line can be tangential to all the concentric tracks. The basis in the specification for this language is not clear. Claim 8, line 8, "to" should be --two--. Claims 1-2, 12 and 16 lack antecedent basis for "the total variance" and "the angle." Claims 1-10 and 12 have no clear antecedent basis for "the next adjacent track." The claims 5-7, 9 and 12 recitations of housing width being substantially the same as disc diameter lacks a clear description in the specification.

2. These reexamination proceedings are limited to prior art and no other issues will be treated here. Section 2253 of the MPEP also notes that:

> ---and no third party submissions will be acknowledged or considered unless they are in accordance with 37 CFR 1.510. The reexamination proceedings will be ex parte because this was the intent of the legislation. The patent owner cannot file papers on behalf of the requester and thereby

circumvent the intent of the legislation and the rules.

The filing of any paper on behalf of anyone not the patent owner thus will not be acknowledged nor will any such paper be considered. The prosecution shall be ex parte as the legislation, rules and MPEP intend.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

3. Claims 1-3, 10 and 15 are rejected under 35 U.S.C.

103 as being unpatentable over the SQ306 OEM Manual or Roman 3.9-in. article in view of the Dataquest Research Newsletter of 8/82, "SyQuest Introduces Sub-5.25- Inch Rigid Disk Drives" and Nigam.

4. All of applicants claim structure (at least one micro hard-disk, fixedly mounted in a housing, rotation means and rotatable support means for the disc at least 5 megabytes of storage and means to position the transducer, see pages 4-5, page 9, section 2.5-2.7 and Fig. 1a of the OEM manual or **[the "r" in "or" is handwritten]** pages 239, 243 and 244 of the Roman article) except the specific disc size (92-96mm) **[the "9" in "92" is handwritten]** and the details of fixing the cartridge and disc to the drive and the details of the sealing of the unit. The Sub-5.25 Newsletter teaches that the units (disc, cartridge and drive) can be fixed together (page 2, under "PRODUCTS") so that at least part of the head positioning means (all in fact) is within the housing. This housing seals its contents from outside contamination by use of an access opening which can be closed off (door) and a filter to purify the air of harmful dust. Applicants disclose a cover with a filter where the cover and its gasket close off or seal an access area (col. 7, lines 52-59). A filter in the cover can hardly read on complete sealing of the compartment from everything outside the compartment. The claimed **[handwritten: "]** sealed **[handwritten: "]** cannot be interpreted in a more restrictive manner than the closing off of the compartment with an access blocking member while filters are relied on to remove any contamination

particles which invade the compartment. Those of ordinary skill would have found it obvious to use well known gaskets to help seal the door to the external housing since door gasket seals are everyday matters found on weather stripped doors, car doors, refrigerator doors, etc. The Fig. 2 caption of Roman or the patent to Nigam teach the well known manner in which shafts are sealed. The use of such well known sealing techniques to keep contamination of the compartment at a minimum during operation would have been obvious to those of ordinary skill to implement the suggested contaminant free environment necessary for operation.

The Dataquest Newsletter is also relied on for its suggestions relative to disc diameter selection (see page 6, all under "New Size Format"). It would thus have been obvious to those of ordinary skill in the art that any known diameters of standard 3½ floppy discs could be used instead of the noted 100mm diameter. It must further be noted that the disclosed range is 85-100mm with a mere preference (but no underlying reason) for a diameter of substantially 96mm. These claims set forth 92 to 96mm or (96-4)mm. This is not seen to be the ordinary meaning of substantially which usually includes + as well as - limits **[handwritten: "i.e. 92(96-4) to 100(96+4)"]**. Considering the invention as a whole as well as applicants disclosure the mere size difference between 96mm and 100mm is first of all not considered a patentable difference, see *In re Kaslow*, 217 USPQ 1089. Further, it is well known that the mere change

in size of a known article (here the disc diameter) is not ordinarily considered unobvious, *In re Rose*, 105 USPQ 237.

Considering the references relative to their fair teachings it would have thus been obvious in light of the Newsletter teachings to modify either primary reference to the fixed disc mode and to use diameters of less than 100mm which approximated known 3½ floppy disc diameters because of the explicit suggestions of the primary references as to such fixed disc format and because no patentable distinction between 92 to 96 or 92 to 100 can be seen in light of the disclosed preference for substantially 96mm. The obviousness of an access door being provided with a gasket is treated above as is the obviousness of having sealed the shaft against contamination as taught by Nigam (note also the Fig. 2 caption suggestion of the Roman article).

Applicants argue that a cartridge system cannot be considered to have a fixedly mounted disc or a sealed housing in which at least a portion of the positioning means are mounted. The fixed mounting of the disc as set forth in the Newsletter is reasonably readable on fixedly mounted. Relative terms are to be broadly construed, see *In re Heck*, 216 USPQ 1038. Applicants have made similar argument as to what a micro hard disc can read on. Micro is a relative term with no limitation beyond small. There is a difference between reading a term in light of the disclosure and reading narrow disclosure into a broad recitation lacking such explicit language. The 100mm suggest discs are clearly hard

and clearly micro relative to what were known disc diameter.

5. Claims 1-3, 5, 8, 10, and 15 are rejected under 35 U.S.C. 103 as being unpatentable over Control Data News release of the Control Data publication 9270-6.

6. All of applicants' claim structure is disclosed except the specific size of the 3½ inch disc in terms of millimeters. The choice of some value in Applicants' disclosed range of 85-100mm as being a 3½ disc appears reasonable. The previous rejection comments as to the claimed range of 92-96mm failing **[the "g" in "failing" is handwritten]** to define patentable or unobvious subject matter over the broader range is again noted. These references disclose a housing width of 4 inches (102mm in **[the "n" in "in" is handwritten]** the 9270-6 reference) which is considered to be included in **[the "i" in "in" is handwritten]** the broad relative recitation that the disc diameter and housing width be "substantially" the same, note again *In re Heck*, 216 USPQ 1038.

7. Claim 4 is rejected under 35 U.S.C. 103 as being unpatentable over The SQ306 OEM Manual or Roman 3.9-in. Article in view of the Dataquest Newsletter and Nigam as applied to claims 1-3, 10 and 15 above, and further in view of the Cribbs Electronic Design Article.

The Cribbs Electronic Design article teaches that hard discs are well known to be capable of densities of at least

600 TPI where such higher densities provide the clear benefit of increased storage capacity. The use of such higher density storage, also admitted by applicants to be known from 5¼ drives, would have been obvious to those of ordinary skill to achieve such benefits as higher storage density. The size of the disc is not seen to effect the TPI storage capacity.

8. Claims 4, 6-7, 9, 12 and 16 are rejected under 35 U.S.C. 103 as being unpatentable over Control Data News Release or the Control Data Publication 9270-6 as applied to claims 1-3, 5, 8, 10 and 15 above, and further in view of the Cribbs Electronic Design Article.

The use of 600 TPI or greater as taught by the Cribbs article (see page 104, 1st col. last paragraph) is again considered as having been obvious to those of ordinary skill in the art as set forth in paragraph 7 above.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless-

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 11 is rejected under 35 U.S.C. 102 (b) as anticipated by or, in the alternative, under 35 U.S.C. 103 as obvious over the EP 0,055,568 document.

The term micro is considered a relative term to express a "smaller than" concept. Relative terms are again noted to be given broad readings during ex parte prosecution-see again the *Heck* Decision noted above. Compared to an 8 **[handwritten: "9-10"]** inch disc a 5¼ can be reasonably termed smaller or mini or micro. Explicit statements of size must be made because disclosed but unclaimed sizes cannot render broad relative terms **[handwritten: "("]** such as **handwritten: "micro)"]** into patentable subject matter.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Claims 13, 14 are allowed.

11. In order to ensure full consideration of any amendments, affidavits or declarations, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116, which will be strictly enforced.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Cardillo whose telephone number is (703) 557-4316.

Reexamination No. 90/001339

Art Unit 235

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 557-2878.

RC/MS

4/15/80

[handwritten signature]
[stamp:
RAYMOND F. CARDILLO
SUPERVISORY PATENT EXAMINER
ART UNIT 235]

U.S. Docket 59780/6

In Reexamination of

Patent No. 4,638,383

Requested September 28, 1987

For MICRO HARD-DISK DRIVE SYSTEM

THE COMMISSIONER OF PATENTS AND TRADEMARKS

Washington, D.C. 20231

Sir:

Transmitted herewith is an amendment in the above-identified application.

* * *

RESPECTFULLY SUBMITTED

KENYON & KENYON

/s/ /s/

John C. Altmiller/Richard S. M

REG NO. 25,591 / 32,541

Date **[handwritten: "6-20-88"]**

IN THE UNITED STATES
PATENT & TRADEMARK OFFICE

Reexam No.	:	90/001,339
In the Reexamination Of	:	U.S. Patent No. 4,638,383
For	:	MICRO HARD-DISK DRIVE SYSTEM
By	:	James G. McGinlay, et al.
Requested	:	September 28. 1987
Group	:	230
Examiner	:	Raymond F. Cardillo

AMENDMENT

Honorable Commissioner of Patents
and Trademarks
Washington, D.C. 20231

SIR:

In response to the Office Action of April 19, 1988 reconsideration of the rejections therein is respectfully requested in view of the following proposed amendments and remarks.

In the Specification

Please amend the paragraph bridging columns 7 and 8 of the specification as follows:

The positioning mechanism is shown in greater detail in FIG. 4. This positioning mechanism is mounted on the base

of housing 50 within chamber 52 of the disk drive system. Chamber 52 is formed by chamber housing 50 and top cover 38. Winchester disk 24 is mounted on a hub assembly 54 within chamber housing 52 so that it is rotated within the chamber by the d.c. motor 32. As illustrated in FIG. 4, the housing has a width substantially the same as the diameter of disk 24.

* * *

two support arms each supporting one of said read/write heads with each read/write head being mounted at one end of its respective support arm;

a pivot shaft having an axis located on one side of said support arms and spaced away from said support arms;

a positioning arm to which the other ends of said support arms are attached, said positioning arm having one end thereof coupled to said pivot shaft;

a bearing assembly supporting said pivot shaft for rotational movement thereby enabling said positioning arm to be pivoted about the axis of said pivot shaft;

a stepper motor having an output drive shaft; [and] means for operating said stepper motor in step increments [,]; and

a tensioned steel band coupling said drive shaft of said stepper motor to the other end of said positioning arm, said band being arranged in a pulley arrangement whereby rotational movement of said stepper motor causes pivoting of said positioning arm about said pivot shaft for moving said support arms and the read/write heads in incremental steps with each increment causing said read/write heads [transducer means] to move from one track to the next adjacent

track on said micro hard-disk.

4. A computer disk drive system [for operating a micro hard-disk, said disk drive system] comprising:

a sealed housing;

at least [one] two micro hard-disks each having a diameter of between 92 and 96 mm and each having a plurality of concentrically adjacent tracks on both planar sides thereof, said micro hard-disks fixedly mounted in [a] the sealed housing;

means for rotatably supporting said micro hard-disks;

means for rotating said micro hard-disks;

first and second transducer means [having two read/write heads] for writing digital information on and reading digital information from said micro hard disks on both planar sides of [said] each micro hard disk in a format so that [said] each micro hard-disk has digital information stored on [concentric] said concentrically adjacent tracks at a density providing at least 5 Megabytes of storage per micro hard-disk with the digital information being stored at a density of at least approximately 600[0] concentric tracks per inch, said first and second transducer means each comprising two read/write heads; [and,]

positioning means for moving said first and second transducer means between the concentrically adjacent tracks on said micro hard disks, said positioning means including:

a positioning arm disposed within the sealed housing and mounted for movement relative to said micro hard-disks;

four support arms, each supporting one of said heads at

one end and each connected to said positioning arm at its other end; and

means for moving said positioning arm including a stepper motor having a shaft extending into said sealed housing and means for operating said stepper motor in step increments, each increment causing [said transducer means] said read/write heads to move from one track to the next adjacent track on said micro hard-disks.

5. A computer disk drive system [for operating a micro hard-disk, said disk drive system] comprising:

a sealed housing;

at least [one] two micro hard-disks each having a diameter of between 92 and 96 mm and each having a plurality of concentrically adjacent tracks on both planar sides thereof, said micro hard-disks fixedly mounted in [a] the sealed housing;

means for rotatably supporting said micro hard-disks;

means for rotating said micro hard disks;

first and second transducer means [having two read/write heads] for writing digital information on and reading digital information from said micro hard disks on both planar sides of [said] each micro hard-disk in a format so that [said] each micro hard-disk has digital information stored on [concentric] said concentrically adjacent tracks at a density providing at least 5 Megabytes of storage per micro hard-disk, said first and second transducer means each comprising two read/write heads;

positioning means for moving said first and second transducer means between the concentrically adjacent tracks

on said micro hard-disks, said positioning means including a stepper motor having a shaft extending into said sealed housing and means for operating said stepper motor in step increments, each increment causing said [transducer means] read/write heads to move from one track to the next adjacent track on said micro hard-disks; and,

[a housing in which] said micro hard-disks, said first and second transducer means and at least a portion of said positioning means [are] being contained within said sealed housing, said housing having a width substantially the same as the diameter of said micro hard disks.

6. A computer disk drive system [for operating a micro-hard-disk, said disk drive system] comprising:

a sealed housing;

at least [one] two micro hard-disks each having a diameter of between 92 and 96 mm and each having a plurality of concentrically adjacent tracks on both planar sides thereof, said micro hard-disks fixedly mounted in [a] the sealed housing;

means for rotatably supporting said micro hard-disks;

means for rotating said micro hard-disks;

first and second transducer means [having two read/write heads] for writing digital information in and reading digital information from said micro hard-disks on both planar sides of [said] each micro hard-disk in a format so that [said] each micro hard-disk has digital information stored on [concentric] said concentrically adjacent tracks at a density providing at least 5 Megabytes of storage per micro hard-disk with the digital information being stored at a density of

at least approximately 600[0] concentric tracks per inch, said first and second transducer means each comprising two read/write heads;

positioning means for moving said first and second transducer means between the concentrically adjacent tracks on said micro hard-disks, said positioning means including a stepper motor having a shaft extending into said sealed housing and means for operating said stepper motor in step increments, each increment causing said [transducer means] read/write heads to move from one track to the next adjacent track on said micro hard-disks; and,

[a housing in which] said micro hard-disks, said first and second transducer means and at least a portion of said positioning means [are] being contained within said sealed housing, said housing having a width substantially the same as the diameter of said micro hard disks.

7. A computer disk drive system [for operating a micro hard-disk, said disk drive system] comprising:

a sealed housing;

at least [one] two micro hard-disks each having a diameter of between 92 and 96 mm and each having a plurality of concentrically adjacent tracks on both planar sides thereof, said micro hard-disks fixedly mounted in [a] the sealed housing;

means for rotatably supporting said micro hard-disks;

means for rotating said micro hard-disks;

first and second transducer means [having two read/write heads] for writing digital information on and reading digital information from said micro hard-disks on both planar sides

of [said] each micro hard-disk in a format so that [said] each micro hard-disk has digital information stored on [concentric] said concentrically adjacent tracks at a density providing at least 5 Megabytes of storage per micro hard-disk with the digital information being stored at a density of at least approximately 600 concentric tracks per inch, said first and second transducer means each comprising two read/write heads;

positioning means for moving said first and second transducer means between the concentrically adjacent tracks on said micro hard-disks, said positioning means including means for moving said [transducer means] read/write heads from one track to the next adjacent track on said micro hard-disks; and,

[a housing in which] said micro hard-disks, said first and second transducer means and at least a portion of said positioning means [are] being contained within said sealed housing, said housing having a width substantially the same as the diameter of said micro hard-disks.

8. A computer disk drive system [for operating a micro hard-disk, said disk drive system] comprising:

a sealed housing;

at least [one] two micro hard-disks each having a diameter of between 92 and 96 mm and each having a plurality of concentrically adjacent tracks on both planar sides thereof, said micro hard-disks fixedly mounted in [a] the sealed housing;

means for rotatably supporting said micro hard-disks;

means for rotating said micro hard-disks;

first and second transducer means [having two read/write heads] for writing digital information on and reading digital information from said micro hard-disks on both planar sides of [said] each micro hard-disk in a format so that [said] each micro hard-disk has digital information stored on [concentric] said concentrically adjacent tracks at a density providing at least 5 Megabytes of storage per micro hard-disk, said first and second transducer means each comprising two read/write heads;

positioning means for moving said first and second transducer means between the concentrically adjacent tracks on said micro hard-disks, said positioning means including a stepper motor having a shaft extending into said sealed housing and means for operating said stepper motor in step increments, each increment causing said [transducer means] read/write heads to move from one track to the next adjacent track on said micro hard-disks; and,

electronic circuit means for implementing the operation of said disk drive system, said electronic circuit means being arranged substantially on a single printed circuit board.

9. A computer disk drive system [for operating a micro hard-disk, said disk drive system] comprising:

a sealed housing;

at least [one] two micro hard-disks each having a diameter of between 92 and 96 mm and each having a plurality of concentrically adjacent tracks on both planar sides thereof, said micro hard-disks fixedly mounted in [a] the sealed housing;

means for rotatably supporting said micro hard-disks;

means for rotating said micro hard-disks;

first and second transducer means [having two read/write heads] for writing digital information on and reading digital information from said micro hard-disks on both planar sides of [said] each micro hard-disk in a format so that [said] each micro hard-disk has digital information stored on [concentric] said concentrically adjacent tracks at a density providing [to] at least 5 Megabytes of storage per micro hard-disk with the digital information being stored at a density of at least approximately 600 concentric tracks per inch, said first and second transducer means each comprising two read/write heads;

positioning means for moving said first and second transducer means between the concentrically adjacent tracks on said micro hard-disks, said positioning means including means for moving said [transducer means] read/write heads from one track to the next adjacent track on said micro hard-disks;

[a housing in which] said micro hard-disks, said first and second transducer means and at least a portion of said positioning means [are] being contained within said sealed housing, said housing having a width substantially the same as the diameter of said micro hard-disks; and

electronic circuit means for implementing the operation of said disk drive system, said electronic circuit means being arranged substantially on a single printed circuit board.

Please cancel claim 10 as shown below.

[10. A computer disk drive system for operating a micro hard-disk, said disk drive system comprising:

at least one micro hard-disks having a diameter of between 92 and 96 mm fixedly mounted in a sealed housing;

means for rotatably supporting said hard-disk;

means for rotating said hard-disk;

transducer means having to read/write heads for writing digital information on and reading digital information from said hard-disk on both planar sides of said micro hard-disk in a format so that said hard-disk has digital information stored on concentric tracks at a density providing to at least 5 Megabytes of storage per disk; and,

* * *

transducer means having to read/write heads for writing digital information on and reading digital information from said micro hard-disk on both planar sides of said micro hard-disk in a format so that said micro hard-disk has digital information stored on concentric tracks at a density providing at least 5 Megabytes of storage per micro hard-disk;

positioning means for moving said transducer means between the tracks on said micro hard-disk, said positioning means including a stepper motor and means for operating said stepper motor in step increments, each increment causing said transducer means to move from one track to the next adjacent track on said micro hard-disk; and,

electronic circuit means for implementing the operation of said disk drive system, said electronic circuit means being arranged substantially on a single printed circuit board and including means for reducing current drawn by a stepper motor in response to deselection of said disk drive system by

a host computer.

Please rewrite claim 14 in independent form as shown below:

14. [The computer disk drive system of claim 9, wherein said electronic circuit means includes] A computer disk drive system comprising:

at least one micro hard-disk having a diameter of between 92 and 96 mm and a plurality of concentrically adjacent tracks on both planar sides thereof, said micro hard-disk fixedly mounted in a sealed housing;

means for rotatably supporting said micro hard-disk;

means for rotating said micro hard-disk;

transducer means having two read/write heads for writing digital information on and reading digital information from said micro hard-disk on both planar sides of said micro hard-disk in a format so that said micro hard-disk has digital information stored on concentric tracks at a density providing at least 5 Megabytes of storage per micro hard-disk with the digital information being stored at a density of at least approximately 600 concentric tracks per inch;

positioning means for moving said transducer means between the tracks on said micro hard-disks, said positioning means for moving said transducer means from one track to the next adjacent track on said micro hard-disk;

a housing in which said micro hard-disk, said transducer means and at least a portion of said positioning means are contained, said housing having a width substantially the same as the diameter of said micro hard-disk; and,

electronic circuit means for implementing the operation of said disk drive system, said electronic circuit means being arranged substantially on a single printed circuit board and including means for reducing current drawn by said positioning means in response to deselection of said disk drive system by a host computer.

Please cancel claim 15 and 16 as follows:

[15. The computer disk drive system of claim 3, wherein said positioning means substantially maintains said transducer means at a predetermined angle with respect to each of said concentric tracks.]

[16. The computer disk drive system of claim 12, further including electronic circuit means for implementing the operation of said disk drive system, said electronic circuit means being arranged substantially on a single printed circuit board.]

Please add the following new claims:

17. A computer disk drive system according to claim 3 wherein said support arms are attached to the positioning arm at a position intermediate to the ends of the positioning arm.

18. A computer disk drive system according to claim 17 wherein said stepper motor operates in a full step mode.

19. A computer disk drive system according to claim 4 further including a pivot shaft coupled to one end of said positioning arm and supporting said positioning arm for rotational movement relative to said micro hard disks.

20. A computer disk drive system according to claim 19 and further including a metal band coupling said stepper

motor shaft to the other end of said positioning arm.

[handwritten: "20."] 21. A computer disk drive system according to claim **[handwritten: "19"]** 20 wherein said stepper motor operates in a full step mode.

22. A computer disk drive system according to claim 6 wherein said positioning means further comprises a positioning arm disposed within the sealed housing, a pivot shaft coupled to one end of said positioning arm and supporting said positioning arm for rotational movement relative to said micro hard-disks and four support arms, each supporting one of said heads at one end and each connected to said positioning arm at its other end.

23. A computer disk drive system according to claim 22 wherein said at least two micro hard-disks each have a diameter of approximately 96 mm.

[handwritten: "22."] 24. A computer disk drive system according to claim **[handwritten: "21"]** 23 wherein said stepper motor operates in a full step mode.

25. A computer disk drive system according to claim 8 wherein said positioning means further comprises a positioning arm disposed within the sealed housing, a pivot shaft coupled to one end of said positioning arm and supporting said positioning arm for rotational movement relative to said micro hard-disks and four support arms, each supporting one of said heads at one end and each connected to said positioning arm at its other end.

26. A computer disk drive system according to claim 25 wherein the digital information is stored at a density of at least approximately 600 concentric tracks per inch.

[handwritten: "24."]

27. A computer disk drive system according to claim **[handwritten: "23"]**~~26~~ wherein said stepper motor operates in a full step mode.

28. A computer disk drive system according to claim 9 wherein said positioning means further comprises a positioning arm disposed within the sealed housing, a pivot shaft coupled to one end of said positioning arm and supporting said positioning arm for rotational movement relative to said micro hard-disks and four support arms, each supporting one of said heads at one end and each connected to said positioning arm at its other end.

29. A computer disk drive system according to claim 28 wherein said pivot shaft has an axis located on one side of said support arms and spaced away from said support arms, and said positioning means further comprises:

a bearing assembly supporting said pivot shaft for rotational movement thereby enabling said positioning arm to be pivoted about the axis of said pivot shaft;

a stepper motor having an output drive shaft; and

a tensioned steel band coupling said drive shaft of said stepper motor to the other end of said positioning arm, said band being arranged in a pulley arrangement whereby rotational movement of said stepper motor causes pivoting of said positioning arm about said pivot shaft for moving said support arms and said read/write heads relative to said micro hard-disks.

[handwritten: "26."]~~30.~~ A computer disk drive system according to claim **[handwritten: "25"]**~~29~~ wherein said

support arms are attached to the positioning arm at a position intermediate to the ends of the positioning arm.

[handwritten: "27."] ~~31.~~ A computer disk drive system according to claim **[handwritten: "26"]** ~~30~~ wherein said at least two micro hard-disks each have a diameter of approximately 96 mm.

REMARKS

By this response claims 1, 2, 10, 12 and 15-16 have been cancelled, thus leaving only claims 3-9, 11, 13-14 and newly added dependent claims 17 to 31 for consideration. Claims 13-14 have been rewritten in independent form and, hence, are allowable as indicated by the Office Action of April 19, 1988. The remaining claims have been amended to define more particularly the invention in order to distinguish over the art of record including the art submitted in a Supplemental Information Disclosure Statement filed herewith.

In addition, all of the issues raised by the Examiner on page 2, paragraph number 1 of the outstanding Office Action have been obviated and it is respectively requested that the Examiner

* * *

Respectfully submitted,

KENYON & KENYON

Date: **[handwritten: "6-20-88"]**

/s/	/s/
John C. Altmiller	Richard S. Meyer
Reg. No. 25,951	Reg. No. 32,541

1025 Connecticut Avenue, N.W.
Washington, D.C. 20036
(202) 429-1776

OF COUNSEL:

Sullivan & Cromwell
1755 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

IN THE UNITED STATES
PATENT & TRADEMARK OFFICE

[stamp above title in left margin: SEP 28 1987]

90/001339

[the first "9" and the "/" in the above number are handwritten]

In re Patent of
James G. McGinlay et al.
Patent No. 4,638,383
Issued: January 20, 1987
Per: MICRO HARD-DISK DRIVE SYSTEM

REQUEST FOR REEXAMINATION

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

Rodime PLC is hereby requesting, pursuant to 35 U.S.C. §§ 302-307 and 37 C.F.R. § 1.510 ff., reexamination of U.S. Patent No. 4,638,383 ("the 383 patent"), for a Micro Hard-Disk Drive System, issued to James G. McGinlay and Roderick M. Urquhart, and assigned to Rodime. Rodime requests reexamination of claims 1-12 of the '383 patent.

STATEMENT REGARDING SUBSTANTIAL NEW QUESTIONS OF PATENTABILITY

Rodime is involved in three pending litigations raising issues of validity regarding the '383 patent. Two of these --

Rodime PLC v. *Miniscribe Corporation*, Civil Action No. 86-K-2225 (D. Colo.) and *Rodime PLC and Rodime, Inc.* v. *Conner Peripherals, Inc.*, No. C-87-20525 RPA (N.D. Cal.) -- are infringement actions commenced by Rodime in which the defendants have raised the defense *inter alia* of invalidity. In the third, *International Business Machines Corp.* v. *Rodime, PLC*, Civil Action No. 87-8938-TPJ (D.D.C.), IBM is seeking a declaratory judgment that the patent is invalid.

Rodime's adversaries in these lawsuits have argued that prior patents and printed publications present substantial new questions of patentability, which were not considered by the Examiner during the prosecution of the application that led to the '383 patent. Prior art has also been called to the attention of the patent owner by others. Much of this prior art was in fact brought to the attention of the Examiner, and considered by the Examiner, during the prosecution of the application that led to the '383 patent.[1/] Nevertheless, at

---

[1/] Attached is a list of Exhibits hereto, copies of which are contained in the enclosed Appendix. Exhibits that are copies of patents and printed publications that were cited during the prosecution of U.S. Patent Application 790,621, filed November 19, 1985 (the '621 application), which resulted in the issuance of the '383 patent, are noted in the List of Exhibits in the column headed '383.

Exhibits that are copies of patents and printed publications that were cited during the prosecution of U.S. Patent Application Serial No. 582,554 (the '554 application), filed February 22, 1984 (the application that resulted in United States Patent No. 4,568,988 (the '988 patent)) are noted in the List of Exhibits in the column headed '988. The '383 patent is a continuation of the '988 patent.

The remaining exhibits are copies of patents and printed publications that were not cited during the prosecution of either the '554

(continued...)

least one substantial new issue of patentability has been raised in the three lawsuits, which should be resolved by the reexamination process.

[1/](...continued)

application or the '621 application.

A request for reexamination of the '988 patent is being filed concurrently herewith.

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA

QUANTUM CORPORATION, *Plaintiff,*	)	Civil Action No. 4-93-Civil-214
v.	)	
RODIME PLC, *Defendant.*	)	

QUANTUM CORPORATION'S REPLY TO RODIME PLC'S OPPOSITION TO QUANTUM CORPORATION'S MOTION FOR SUMMARY JUDGMENT OF INVALIDITY OF CLAIMS 4, 6, 7, 9, 14 AND 19-27

* * *

Rodime also attempts to obscure the "plain meaning" of the ordinary words and phrases in the reexamined claims by showing that the "track density" of a disk drive with a rotary actuator varies from the inner track to the outermost track of the disk. Rodime provides "expert" testimony on rotary actuator geometry and manufacturing tolerances, but these are not disputed facts. Quantum agrees that track density on a "rotary actuator" varies over the arcuate path of its movement relative to the disk radius, but this variation is readily explained by the differences in the geometry of lines and arcs. More importantly, any such variation is immaterial to the meaning of the terms in the claims at issue.